MOTHER KNOWS BEST:

UNDERSTANDING MOM BLOGS' INFLUENCE ON MOMS' NUTRITION BELIEFS AND HABITS

A Thesis

Presented to the Faculty of the Graduate School

of Cornell University

In Partial Fulfillment of the Requirements for the Degree of

Master of Science

by

Maria Helen Kalaitzandonakes

May 2019

ABSTRACT

Mom bloggers, and more broadly, mom influencers seem to be leaving their mark on parenting trends, but at this point, there is little formal evidence testing their influence. In this study we use manual and automated content analysis on 22 prominent mom bloggers to better understand what they are saying about food and nutrition, then we test several hypotheses about why mom bloggers may be persuasive. We found that mom bloggers built trust by creating an online community, commiserating about the difficulties of mothering with their readers, and by providing useful content, especially kid-friendly recipes. We found mixed results when testing the capacity for opinion leadership directly, but we found some evidence that mom bloggers were more influential than experts on moms' food purchasing decisions and that relational style writing, often used by bloggers, can also be impactful.

Key terms: opinion leaders, mom blog, nutrition

BIOGRAPHICAL SKETCH

Maria Kalaitzandonakes is interested in the way that information about food is created, spread, and becomes influential in public policy and consumer behavior. She began pursuing her interest six years ago, by attending the University of Missouri for her dual undergraduate degrees: Science and Agricultural Journalism and Agricultural Economics. She then came to Cornell University to pursue a Master's in Applied Economics and Management. Beyond her academic experience, her professional experience as a policy intern at the United States Department of Agriculture, her years as a science, agriculture, and food journalist, and her time spent training farmers and regulators have made her acutely aware of how and why food trends take off. She hopes to have a career studying how information streams affect consumer behavior and national food policy.

ACKNOWLEDGMENTS

I'd like to thank my advisors, Dr. Geoffrey Fisher and Dr. Jura Liaukonyte, for funding my project and for the many hours they spent giving me comments and nudging me in the right direction. I'd like to thank Arslan Zulfikar Ali for verifying the content analysis by being a proficient and helpful second coder. Thank you also to my classmates who gave me feedback and support throughout this process. Lastly, I'd like to thank my husband, Matthew, for his constant support, my parents for being my loudest cheerleaders, my friends for many cups of coffee and endless phone calls, and Mav for being my constant study buddy.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

B1	100 Days of Real Food
B2	A Mom’s Take
B3	Dear Crissy
B4	Cool Mom Picks
B5	Design Mom
B6	Family Focus Blog
B7	Fun Cheap Free
B8	Jen’s Blah Blah Blog
B9	Lady and the Blog
B10	Mama's Losin' It
B11	Mamavation
B12	Mom Blog Society
B13	Mom Does Reviews
B14	Mom Trends
B15	Pretty Prudent
B16	Shibley Smiles
B17	Slap Dash Mom
B18	Sweet T Makes Three
B19	The Taylor House
B20	Thrifty Nifty Mommy
B21	Thrifty Northwest Mom
B22	24/7 Moms

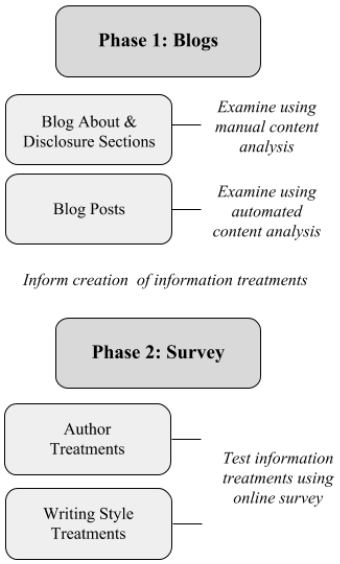
A&D	Used to indicate About and Disclosure
W	Used before variables to indicate Whole Wheat treatments were used
S	Used before variables to indicate Added Sugar treatments were used
*	Used to indicate a significance level of $p < 0.1$
**	Used to indicate a significance level of $p < 0.05$
***	Used to indicate a significance level of $p < 0.01$

Introduction

Mothers have a sizeable influence on a child's diet and therefore, many health outcomes including weight, under or over nutrition, and diseases and disorders. Mom bloggers, and more broadly, mom influencers are increasingly making their mark on food and health trends. At this point, there is little academic evidence that formally explores the influence of mom bloggers. In this study we use mom bloggers as a case study to examine how layperson information channels influence consumers' food decisions and beliefs. This study specifically helps us begin to understand the level of influence and the mechanisms for influence that mom bloggers have.

We follow a Sequential Exploratory approach of a mixed method design (Creswell, 2018), by first beginning with an exploration of qualitative data, including 22 About and Disclosure (A&D) sections of mom blogs and over 155,000 blog posts using the well-studied method of content analysis. Then, we integrate our qualitative findings with the existing literature on mom blogs and formulate hypotheses to test in the second part of the study, a survey evaluating the influence of mom bloggers and experts on the habits and beliefs of US moms regarding nutrition. Figure 1, below, shows the sequential exploratory design.

Figure 1: Sequential Exploratory flow



We begin with a discussion of several literatures starting with mom blogs, the use of content analysis as a method to investigate communication, the role of opinion leaders in changing behavior and beliefs, and the use of information treatments to test the influence of information. We then follow the literature review with a thorough report of the methods used for blog analysis: beginning with manual content analysis of the A&D sections, followed by automated content analysis of the blog posts. After the blogs methods, we discuss our findings on blog content. The content from the blogs then informed the creation of several information treatments, which are described fully in the survey methods sections. After the survey methods we discuss our survey findings, including impact of author and writing style on willingness to pay, intent to purchase, and ratings of trust and helpfulness. We finish by drawing conclusions from our mixed method study and providing recommendations for future use and research.

Literature Review

This study intersects two different areas of academic literature. First, a small literature that looks at the influence and content of mom blogs. Second, a literature that focuses on the use of opinion leaders to improve technology adoption or health outcomes, which has generally used expert leaders, rather than layperson leaders.

Mom Blogs

Mothers began writing first person, public blogs in the early 2000s. They were first known as "mommy blogs," but the name of the genre was later shortened to a more professional "mom blogs" (Friedman, 2013, 9). Now, many moms are using blogs, video blogs, and social media platforms to publicly share their stories. In 2012, there were as many as 3.2 million women who identified as mom bloggers, and 1 in 3 blogs available online were written by moms

(Neilson, 2012). A handful of these moms have gained enormous followings, made significant earnings through advertising, partnerships, etc., and appear to wield significant influence.

One of the first to gain fame and fortune was Heather Armstrong, who wrote a blog called The Dooce. She made upwards of a million dollars annually and had hundreds of thousands of readers on her site daily (Belkin, 2011). The New York Times referred to her as the "Queen of the Mommy Bloggers" and told the story of her exercising her power by "threatening to bring the wrath of the Internet down" on a company she was upset with at the time (Belkin, 2011). Since then, there have been many different mothers who have found their way to influencer status. In this study we looked at mom blogs with between 100,000 and 1.9 million followers. Mom bloggers and influencers have been increasingly courted by large companies to promote their products (Gale Group, 2007; Kwon 2012). In her book "Mommyblogs and the Changing Face of Motherhood," Friedman (2013, 145) noted, "Mommyblogs are becoming increasingly monetized and are thus changing in content. … Among mommybloggers, there is some fear that monetization will result in less sincere and raw documentation of motherhood in the trenches. Others argue that women who write will deserve the recognition and monetary compensation that any good writer should see." In this study, we will only examine mom blogs which have monetized to some extent. It is uncommon to find highly-followed mom blogs that have not monetized. Here we examine 22 well-followed mom blogs with a food focus that make some or all their money from their blog and accompanying social media platforms.

Over the years, mom bloggers have faced both cultural criticism and support (Friedman, 2013). Mom bloggers have been accused of writing about their children without consent and of being sellouts (Hunter, 2015). Mom blogs have also been heralded as a rare authentic depiction of motherhood and even as a radical act of feminism (Friedman, 2013). Ultimately though, no

matter the positive or negative perception of mom blogs and their writers, studying this information channel is important because their influence is undeniable and not yet well understood. Over the years they've grown and evolved to reflect the ever-changing digital landscape. Now, many so-called mom bloggers are vlogging (video blogging), sharing stories on social media platforms including Instagram, Facebook, and Pinterest, and hosting workshops. Some sell products directly, some give out codes for deals, and some partner with companies, and the use of online mom influencers is only growing. One company that works with mom bloggers told Money, "It's basically like word of mouth on steroids." (Calafas, 2018).

The current literature on mom blogs points to a few reasons why mom bloggers may gain popularity and influence. First, mom blogs use informal and relational language and confessional stories, which connect them to their readers (Yonker, 2012; Friedman, 2013; Orton-Johnson, 2017; Ward, 2012). For example, Orton-Johnson (2017) finds particular strength in the confessional or bad mom theme, where mom bloggers admit to their shortcomings as mothers and share their frustration with the motherhood role. Second, mom bloggers sometimes position themselves as mothering experts or mothering professionals (Petersen, 2014; Ward, 2012;). For example, Ward (2012) notes, "The mom blogger is not a modern-mothering expert due to advanced formal education, but as a result of real-life, in-the-trenches personal experience." Last, they build strong connections with their readers over time and through comments and social media (Yonker, 2012; Friedman, 2013). These three qualities seem to set them apart from experts (e.g. a doctor or academic) whose advice on child rearing has often not considered the difficulty of moms' everyday lives and, at times, has been unhelpful or even harmful (Ehrenreich and English, 2005).

Using content analysis methods, we will investigate how mom bloggers and experts build trust by building expertise and making use of relational writing. We will then use this information to create treatments to formally test the influence on mothers' food decisions and beliefs about food related health claims for their children.

Content Analysis

Content analysis is a well-studied method of analyzing communication messages and has been used in many fields (Neuendorf, 2002). Content analysis is used to quantify the frequency and content of communication published by different entities. Manual and automated content analysis are used for different inputs and yield different outputs. Manual content analysis is most commonly used for small amounts of documents and can produce in-depth findings through specific, line-by-line codes. Automated content analysis is used on a larger number of documents and allows researchers to use the content analysis method when manual content analysis would not be possible. Automated content analysis makes use of existing computer programs that automatically quantify the number of terms, extract phrases and sources, categorize positive and negative sentiment, etc. Here, we used both manual and automated content analysis to code and analyze the mom blog data. We used manual content analysis to quantify the content of the mom blogs' A&D sections. To reduce coder bias, two independent coders manually coded, and we followed the process laid out in Neundorf (2002), following intercoder reliability standards. Finally, we used automated content analysis to analyze the blog posts.

A few studies have looked specifically at mom blogs using content analysis. For example, Yonker (2012), a mom blogger and academic herself, conducted content analysis on three lesser-known mom blogs and found consistent themes across the blog posts including rejection of perfection and honesty, which built trust and community. Bryant (2012) conducted

manual content analysis on 122 blog posts which discussed the scientific controversy surrounding the fictitious link between vaccines and autism. Hunter (2015) investigated a case study on mom blog commercialization using manual content analysis. Doub, Small, and Birch (2015) looked at the framing of nutritional information in 158 blog posts and found differences between what was discussed on mom blogs and current academic nutritional information. Our findings from both manual and automated content analysis, discussed in depth in the analysis section below, found relatively consistent themes in the content of 22 food-related mom blogs. Meleo-Erwin, et.al (2017) looked at 25 popular parenting blog posts on vaccines and found that over half of the posts framed vaccines negatively and comments were almost three times as likely to be negative. Meleo-Erwin, Doub, Small, and Birch, and other researchers have suggested health professionals find innovative ways to correct these streams of misinformation.

Opinion Leaders

The theory of opinion leaders was first put forth as an explanation for innovation adoption and diffusion, known as the Theory of Diffusion (Rogers, 1962). It was originally used to explain how and why the use of certain technologies were adopted and then spread. Since then, it has been used as the basis for inducing change or technology acceptance, especially within the health sector (Valente and Pumpuang, 2007). Opinion leaders tend to be well-integrated into the group and share many common characteristics with the group. They are often looked to as a standard and are often asked for advice. The opinion leader model has been used to try to change various behaviors including: increasing breastfeeding rates (Sisk, et al. 2004), increasing HIV prevention (Crittenden, et.al, 2015), etc. Much of the current literature on opinion leaders have used traditional experts, for example doctors, as the influencers, and a few have focused on the use of peers. However, as Burke-Garcia (2017; 2018) suggested, some

layperson opinion leaders, including mom bloggers, may be another option. To test this possibility, she interviewed 24 bloggers on the topic and conducted a survey with 449 adults who blogged regularly to test their willingness to share health related content with their readers. She used health information on Zika virus and found that generally the bloggers were willing to share the health information.

Some informal programs have taken place, for example, a hospital began paying mom bloggers to write about newborn health (Howell, 2010). They noted:

> "Ask a mom where she finds advice about parenting, nutrition or child safety, and she'll likely mention several other mothers before naming her pediatrician. Increasingly, moms are turning to social medias as a vehicle to connect with other mothers, and now some hospitals are joining in the conversation."

In general, researchers are finding that women, and especially mothers, have an important role to play in science and health communication. An in-depth work by Kimura (2016), for example, looked at how moms played a role as opinion leaders and citizen scientists following the radiation food scares in Japan. In the book she notes, "... risk communication increasingly deploys women as spokespeople on behalf of government authorities and scientific experts." (Kimura, 2016, 56).

There have been a few studies which have looked at the trust levels of various health information. For example, Freed et al. (2011) conducted a survey to identify which sources of information parents trusted on vaccines. They found that parents trusted their child's doctor most (76 percent of their survey takers said they had "a lot of trust" in that source of information). They found that celebrities were generally not trusted (76 percent of their survey takers said they

trusted celebrities "not at all"). However, they did find moms trusted celebrities at slightly higher rates than fathers.

There is a gap in the literature though, in measuring the influence of layperson opinion leaders on health and food related issues. Here we will use mom bloggers as a case study to look at the influence of layperson information channels on consumers' nutrition beliefs and behaviors.

Information Treatments

At this point, most of the literature about mom blogs is focused on its content or potential cultural impact, rather than the mechanisms of influence. The literature uses content analysis and interviews to show that mom blogs are influential in changing opinions and habits of mothers (Friedman, 2013). This study will add to the literature by testing how influential the mom blogs are on mothers making food purchasing decisions for themselves and their children through an experiment. Using information treatments, we will randomly vary how nutrition information is relayed to the mother (relational versus non-relational writing) and randomize who is endorsing the information (a mom blogger, an expert, or a combination of the two).

There is an existing body of work that tests how various, specific information sources influence purchasing decisions and behavior (Bettman, 1979), including how information of flammability affect choice of fire-resistant upholstery (Chandler, 1991) and how food labels affect purchasing decisions (Costanigro and Lusk, 2014). This study will add to this literature by using mom bloggers, a unique kind of layperson information stream.

Selecting Blogs

There is an enormous number of mom blogs on the internet today, so selecting the ones to include in this study was an intentional process. To collect mom blogs that historically had large audiences, we used a media company's list of top 50 mom blogs (Cision, 2014), which was

based on digital reach, Twitter followers, and inbound links, as a starting point. This blog selection method was similar to other studies on the subject.

From there, we did not include blogs in our sample that did not meet our three criteria. (1) Large Social Following: the blogs had to have at least 100,000 followers as of April 21, 2018 across Facebook, Instagram, Twitter, YouTube, and Pinterest. (2) Food Focus: the blogs had to have food or recipes as one of their main topics on the blog's front page. (3) Still Active: the blogs had to have recent posts, indicating they were still an active blog. 22 blogs fit all the criteria and were kept. Additional details on the blog selection process are presented in Appendix 2.

Table 1: Details on chosen blogs

Name	*2018 Facebook Followers*	*2018 Twitter Followers*	*2018 Pinterest Followers*	*2018 Instagram Followers*	*2018 YouTube Followers*	*Sum of Social Followers*	*Multi-Mom Blog*	*Sole Focus is Food*
100 Days of Real Food	1,651,077	25,509	120,045	122,168	7,557	1,926,356	Yes	Yes
Cool Mom Picks	134,433	515,417	135,197	19,273	177	804,497	Yes	No
24/7 MOMS	730,378	44,247	16,538	2,290	25	793,478	Yes	No
Dear Crissy	190,789	84,665	180,066	21,273	12,853	489,646	No	Yes
Mom Blog Society	53,890	272,267	13,427	15,825	4,453	359,862	Yes	No
Design Mom	53,195	27,770	149,835	53,170	N/A	283,970	No	No
Mamavation	191,452	38,251	19,818	6,973	404	256,898	No	No
Lady and the Blog	18,458	76,738	50,078	59,465	20,448	225,187	No	No
Mom Does Reviews	50,274	105,537	30,410	20,933	6,040	213,194	No	No
The Taylor House	71,196	37,989	68,004	20,734	21	197,944	No	Yes
Thrifty Nifty Mom	78,380	47,683	25,936	20,098	5,184	177,281	No	No
Family Focus Blog	27,566	95,588	20,541	19,494	882	164,071	Yes	No
Sweet T Makes Three	10,313	55,358	52,169	25,014	123	142,977	No	No
Slap Dash Mom	29,843	45,655	43,198	18,655	2,625	139,976	No	Yes
MomTrends	14,058	74,368	33,480	8,631	5,825	136,362	Yes	No
Jenn's Blah Blah Blog	35,987	39,657	40,065	17,221	976	133,906	Yes	No
Shibley Smiles	13,831	61,249	52,427	4,678	684	132,869	No	No
A Mom's Take	19,181	75,871	29,876	4,233	1,299	130,460	Yes	No
Thrifty NW Mom	63,877	31,531	13,123	3,368	18	111,917	Yes	No
Pretty Prudent	25,469	11,717	45,982	11,963	15,798	110,929	Yes	No

Mama's Losin' It	5,843	20,528	6,041	19,003	49,432	100,847	No	No
Fun Cheap or Free	54,032	3,267	83,987	115,613	189,374	446,273	No	No
Average:	157,999	81,359	52,202	22,944	6,443	326,117		

The main characteristics of the blogs that were included in our final sample are presented in Table 1. Four of the blogs focused solely on food and the others included food as one of the main topics. Ten were multi-mom blogs, meaning they were written by several moms. The 22 blogs had an average following of 328,200 people, not taking into account cross-platform overlap. The blog with the most followers was 1,926,356 and the fewest was 100,847. All the available blog posts online were collected through web-scraping. This collection included the post content, the date posted, the author, and, if available, the number of shares and comments. The A&D sections of each blog, where the authors describe themselves and their blog, were collected manually from the sites in April 2018. Demographic data on the mom bloggers was collected from the A&D sections manually at the same time, details of which can be found in Appendix 3. Most of the mom bloggers were open about their marital status and included a few details on their partner. Most mom bloggers did not include information on their education level, although past surveys have shown that mom bloggers tend to have at least a bachelor's degree (Wright and Page, 2009). From this sample, 41 writers included no information on education, 16 said they had a bachelor's degree, 4 said they had their master's degree, 1 said they received a PhD, 1 had an associate's degree, and 2 had other training. Nearly all the bloggers were Caucasian (90.7%). Writers had an average of 2.5 kids, but the numbers ranged from 0 (some contributing writers in multi-mom blogs are not parents) to 6 children. The mom blog creators had 3.2 children on average. Both creators and writers' numbers are generally high though when compared to the nation's average of 2.0 children per woman (Pew, 2018). Possible explanations could be that first, in order to be a mom blogger, you must have at least one child to be

considered legitimate by the in-group, and that perhaps the more children you have, the more experience (and therefore more authority) you gain. Another explanation could be that women having additional kids means having additional years to write about their children, which gives them more time to gain a following. For more details on the demographics of the bloggers see in Appendix 3.

About and Disclosure Sections: Methods & Analysis

The A&D sections of each blog (n=22) were manually coded, using emergent design. Each line from the A&D sections was numbered and informally coded line by line, as Charmaz (2001) suggests. As we read the A&D sections several times and made notes on recurring themes, categories began to form. These categories then became a preliminary codebook. The codes were grouped into three main categories: real life motherhood, legal, and community. We then began manually coding the A&D sections using a software package called QDA Miner and the accompanying package, WordStat.

After several run-throughs, the code book became more solid, and we trained a second coder using articles from a blog rejected from our sample earlier due to a lower number of followers. After training, both coders read and manually coded all the A&D sections (n=22). We had an initial agreement of 76.6 percent overall. Coders then met to locate the areas with disagreement. We found that those were: the code Stay at Home Mom, which seemed to have too much overlap with the Motherhood code; the code Payment, which seemed to have too much overlap with Blog Rules; and the code Support, which seemed to be covering two different topics (the blog as a mechanism of support for moms, which we re-coded Blog Support, and the real-life support of the bloggers' friends and family, which we re-coded as Team). We also updated the definition of the Endorsement code to reflect the blogger's use of her own data (for example,

the readership). Then, each coder re-coded the A&D sections according to the updated codebook. Details and definitions of the final codebook are in Appendix 4, final codebook. After re-coding, our inter-coder agreement was 88.1 percent overall, with a code agreement greater than 80 percent for each sub-code. Details on our final inter-coder agreement test are in Appendix 5, intercoder agreement test. Below, in Table 2, you can see the codes we found in the A&D sections.

Table 2: Codes used in About and Disclosure Sections

Code Name	Count	Cases	Percent of Cases
Community			
Previous Experience	94	15	68.20%
Similar Values	54	15	68.20%
Trust	130	20	90.90%
Team	16	8	36.40%
Blog Support	73	19	86.40%
Real Life Motherhood			
Busy	35	18	81.80%
Humor	101	13	59.10%
Imperfections	38	14	63.60%
Me Time	55	13	59.10%
Mother Role	116	20	90.90%
Legal			
Blog Rules	73	16	72.70%
Endorsement	40	13	59.10%
Payment	63	19	86.40%

The A&D sections often explained how the mom blog began, gave some information on the blogger's family, introduced additional writers if their blog was a multi-mom blog, and addressed how their blog makes money. The aforementioned Community theme showed how the blog provided moms with a support system and a tailored motherhood community. The Real Life motherhood theme showed the good and bad moments in raising children. The Legal theme was

important for all of these mom blogs, because they were all income producing mom blogs. However, they were especially important for multi-mom blogs, as it included disclosures and rules for how the blog was run and what the roles were for each player.

The A&D section is the blogger's self-portrait. It is where they describe themselves and their blogs. In this small space they convey how they wanted their readers, especially new readers, to see them. The A&D sections are where they often position themselves as both as an example to follow/mothering expert and as a flawed mother/peer. Nearly all the blogs' A&D sections included mention of trust (90.9 percent of cases), a mother role (90.9 percent of cases), payment (86.4 percent of cases), blog support (86.4 percent of cases), and being busy (81.8 percent of cases). The sub-themes coded most frequently were trust (130), mother role (116), and humor (101). Although not all blogs used humor, a few blogs mentioned it frequently (101 counts of humor use, but those only appeared in about 59 percent of cases).

The A&D sections appealed to their readers' sense of community by finding commonalities, often through motherhood alone.

For example, in B1's A&D she says:

> "As most other wives and moms can relate, I do most of the meal planning and food shopping, therefore I was (and still am) the biggest influence on our family's food choices."

B7's A&D notes:

> "Though not a typical blogger, I am, however, your average, everyday, run-of-the-mill wife, stay-at-home-mom, and snake-avoider."

B8's A&D says:

> "She is a full-time mommy, taxi, chef, boo-boo kisser, social media junky, travel and tech addict, and full-time New Mexico lifestyle blogger. She is the proud mother to 4 amazing children."

The bloggers often frame their own mothering experience, focusing on the ways it has been difficult and occasionally rewarding.

B7's A&D notes:

> "Someone who knew what it felt like to have 5 babies in 6 years and feel the stress of choosing between new socks or an extra box of cereal."

B6's A&D said:

> "Parenting can be hard but it is also the biggest joy that I know."

Mom blog literature has focused particularly on the idea that mom blogs give women a place to discuss their mothering transgressions and the ways in which they are a "bad mom". Here, we document that theme using the frame "imperfection". The frame was used in about 64 percent of the A&D sections. In many cases though, they discussed the imperfections in past tense, and talked about how their blog or the journey that had led to the blog, had solved their problem. In fact, the frame Imperfections was most frequently immediately followed by the frame Blog Support, indicating how the blog has helped the writer and its readers. We tested the probability of each frame immediately following the Imperfections frame, and the frame Blog Support was significant (p-value = 0.029).

For example, B11 said:

> "My life used to be full of chemicals, including daily fast food trips, microwaving in plastic, using dangerous chemicals on my skin and smoking."

B1's A&D noted:

> "I had both Doritos and Kraft macaroni & cheese as staples in my diet, and I barely stepped foot on a farm."

Using the information from the A&D sections, we set up a list of important factors to include in the survey treatments including experience (education and impact of blog), imperfections followed by the support and solution of the blog, and a description of their mothering role.

Blog Posts: Methods & Analysis

To begin the automated coding process, we combined all the blog posts data into one QDA Miner data file. Each blog post made up one case, and we removed any cases with zero written words in them, for example if a blog post only contained a jpeg of an infographic. After the data cleaning, we were left with 155,771 observations at a blog post level between 2006 and 2018. 2014 was the peak year for number of posts in our sample. B1, B21, B22, and B14 posted most frequently. November was the most popular month to publish posts overall, followed by December. Each observation had a few variables associated with it: (1) the title of the blog post, (2) the month the blog post was published, (3) the year the blog post was published, (4) the word count of the blog post, (5) the blog post's author, (6) where the blog post was published (B1 through B22), (7) the date of the blog post, (8) the number of times the blog post was shared (if

available), and (9) the number of comments on the blog post (if available). We then used the WordStat software's tools to compare each blog's most common terms, frames, names and entities. We used topic extraction to better understand general themes. We also used the software to compare terms and frames across time and across blogs.

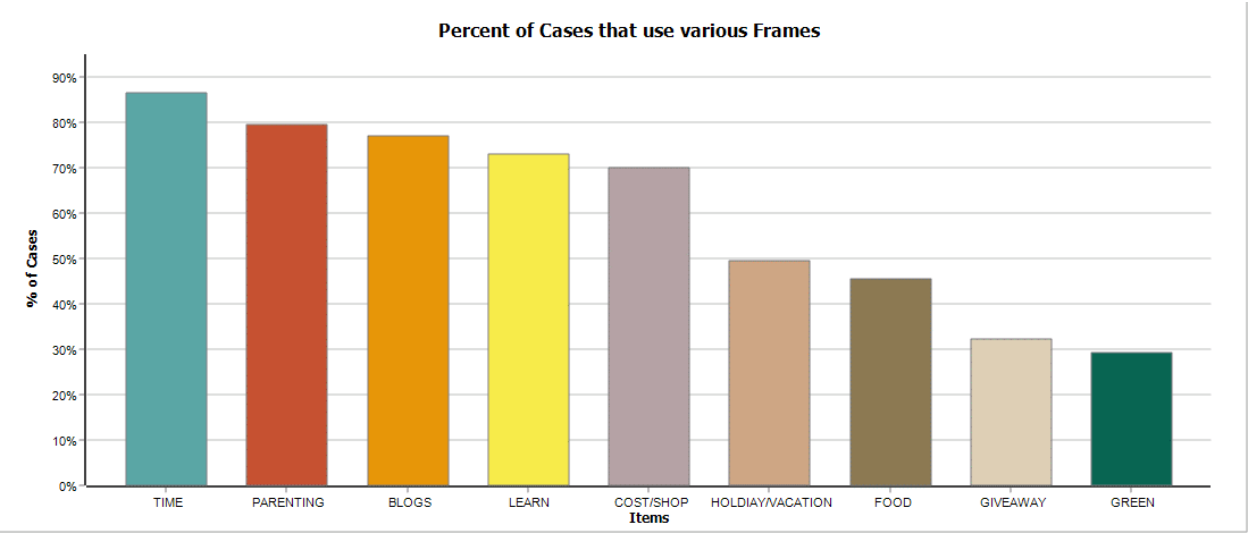
The automated content analysis of the 155,774 blog posts showed us that some of these terms reoccurred quite frequently, i.e., multiple blogs used this word thousands of times. These terms included: time, make, love, day, great, kids, etc. These seem to fall into a few main categories (family, budget, cooking, consumption, quality, time, and blogging). The top 100 most commonly used words across blogs are detailed in Figure 2, below.

Figure 2: Most frequently used terms in blog posts

We then began to form frames within the observations using frame term protocols and the software's topic extraction tools. Frames in the media emerge as terms and themes cluster together. Frames underscore the importance of information via repetition (Entman, 1993). Unique keywords, which later form the terms in each frame, were selected from the frequencies. These keywords, or "frame terms," were selected based on several criteria, including frequency of occurrence, meaningfulness, or substantive interpretability, including the absence of

ambiguity (Entman, 2004). The frames that we found in these posts were: Time, Parenting, Blogs, Learn, Cost/Shop, Holiday/Vacation, Food, Giveaway, and Green (see Figure 3, below).

Figure 3: Frequency of frames

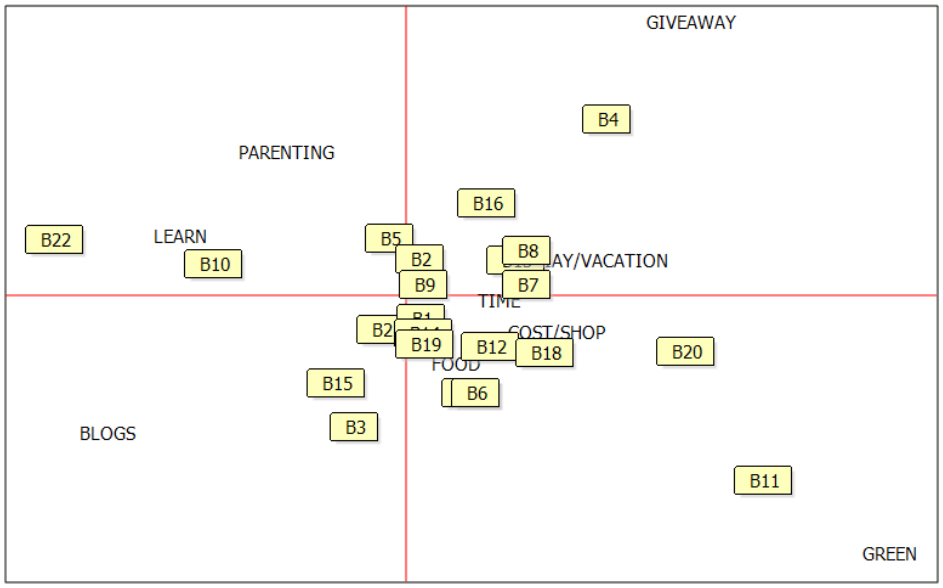


The blog frames were persistent, although there was some variation over years (some growth in Green and Cost/Shop over time) and across months (although holiday/vacation increases in November and December). Also, as each blog has a slightly different focus, there was variation in frames across blogs and writers, which shows how blogs emphasized different frames.

We also conducted automated topic extraction using the software and found four clear themes: giveaway, recipes, coupon/saving, and family/child. As the blogs were each selected for their partial or total focus on food we saw different qualities and characteristics of products appear frequently including: free (33.22 percent of posts), easy (22.46 percent of posts), price (14.23 percent of posts), simple (13.26 percent of posts), natural (8.67 percent of posts), healthy (8.09 percent of posts), local (7.84 percent of posts), green (7.65 percent of posts), and organic (4.69 percent of posts).

We also looked at these topics across blogs by analyzing how frequently the frame terms appeared in each blog's posts. Each blog has its own personality and posted about different topics, as you can see in the figure below.

Figure 4: Visualization of frames across blogs



Blog 22, a large, well-followed, multi-mom blog, had the highest rate of use of the frames Blogs (18.45% of their posts) and Learn (18.46%). Blog 21, which refers to their mom contributors as "Thrifty Nifty," had the highest rate of blog posts using the frame Cost/Shop (20.94%). Blog 3's brand is "Easy Dinner Ideas" and had the highest use of the frame Food (17.16%). One of the most politically active blogs we followed, Blog 11, had the highest rate of Green (13.69%), as many of its posts focus on living an ecofriendly and healthy life. Blog 20 had the highest rate of Holiday/Vacation (12.22%). B4, which frequently recommends parenting and child products, had the highest use of the frame Parenting (18.59%). B7, a family budgeting blog, had the highest rate of the frame Time (20.09%). Below is a table that shows each blogs' frames.

Table 2: Percent of Blog Posts using Topics across Blogs

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
BLOGS	14.70%	15.67%	17.16%	7.15%	11.78%	14.77%	12.02%	14.83%	13.03%	16.70%	10.06%
COST/SHOP	11.18%	11.98%	7.30%	13.77%	10.11%	11.10%	16.72%	13.39%	11.71%	8.40%	10.80%
FOOD	9.07%	8.45%	17.16%	8.01%	8.82%	10.41%	9.00%	7.62%	8.90%	9.59%	13.71%
GIVEAWAY	5.42%	8.21%	3.91%	9.49%	5.14%	4.65%	6.58%	10.24%	4.62%	5.03%	4.34%
GREEN	5.51%	4.15%	6.02%	4.10%	3.83%	8.08%	3.22%	4.77%	3.62%	2.06%	13.69%
HOLDIAY/ VACATION	9.81%	9.32%	7.43%	9.86%	11.25%	9.27%	8.66%	9.62%	11.22%	8.61%	8.08%
LEARN	13.11%	12.28%	11.23%	12.44%	15.14%	13.53%	12.17%	12.68%	12.65%	13.99%	12.07%
PARENTING	14.74%	14.50%	13.70%	18.59%	16.31%	13.66%	11.54%	11.50%	14.87%	16.46%	13.01%
TIME	16.46%	15.44%	16.09%	16.59%	17.63%	14.54%	20.09%	15.34%	19.39%	19.15%	14.25%
	B12	**B13**	**B14**	**B15**	**B16**	**B17**	**B18**	**B19**	**B20**	**B21**	**B22**
BLOGS	15.31%	11.09%	15.63%	17.64%	11.67%	13.13%	11.31%	12.80%	12.89%	15.43%	18.45%
COST/SHOP	12.47%	12.52%	11.73%	9.02%	12.17%	12.34%	11.05%	7.64%	11.51%	20.94%	9.21%
FOOD	8.45%	8.34%	8.36%	11.36%	8.93%	12.25%	14.16%	15.53%	6.81%	6.84%	7.67%
GIVEAWAY	6.20%	6.44%	5.23%	4.48%	9.05%	3.71%	4.63%	4.24%	7.63%	5.18%	5.08%
GREEN	6.67%	5.47%	5.76%	5.08%	3.78%	6.39%	5.84%	5.11%	10.56%	2.83%	2.27%
HOLDIAY/ VACATION	10.57%	10.27%	10.54%	10.36%	10.73%	8.50%	11.02%	9.88%	12.22%	5.75%	7.63%
LEARN	12.72%	14.07%	12.46%	13.67%	15.51%	13.99%	12.58%	13.13%	12.59%	12.97%	18.46%
PARENTING	12.93%	14.85%	14.70%	12.03%	12.85%	12.09%	12.35%	13.92%	12.89%	12.47%	18.46%
TIME	14.68%	16.95%	15.58%	16.37%	15.30%	17.62%	17.06%	17.74%	12.89%	17.59%	12.77%

**Note: Highlight in blue indicates the percent is greater than 15.00%*

Survey: Methods & Analysis

We aimed to answer our overall research question: How do moms' willingness to pay and likelihood to purchase change when presented with nutritional information written in either relational or non-relational styles from expert, mom blog, or combination sources? To answer this question, we set up six information treatments to test a number of hypotheses, outlined in Table 3, below. Combining the small existing literature on mom blogs and our content analysis findings, we created a survey designed to test two important qualities (relational writing and source type).

This resulted in six treatments per food attribute (whole wheat or added sugar):

- Treatment 1: Relational writing + Expert source
- Treatment 2: Relational writing + Mom Blog source
- Treatment 3: Relational writing + Combination source
- Treatment 4: Non-relational writing + Expert source
- Treatment 5: Non-relational writing + Mom Blog source
- Treatment 6: Non-relational writing + Combination source

The survey was designed to measure the degree of influence using willingness to pay and likelihood to purchase for two products: whole wheat bread and juice without added sugar. We also collected demographic data and ratings of helpfulness and trustworthiness of sources.

Table 3: Hypotheses for information treatments

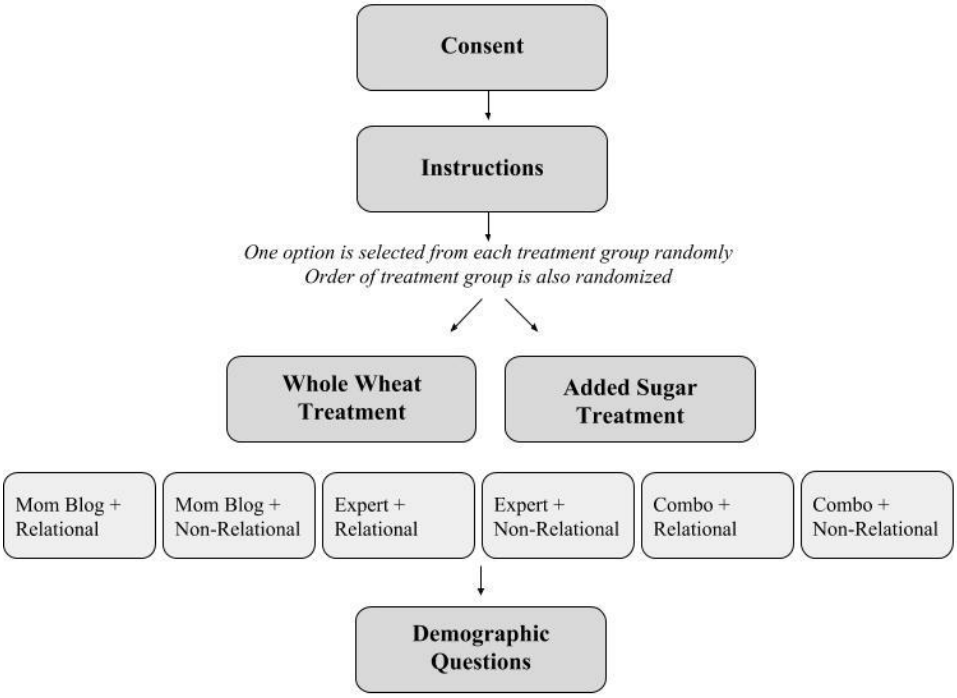
Number	Hypothesis	Variables
Hypothesis 1	Moms will have a higher willingness to pay when presented with relational writing than when presented with non-relational writing.	Y = Self-reported willingness to pay X = Writing style (relational and non-relational
Hypothesis 2	Moms will have a higher likelihood of purchase when presented with relational writing than when presented with non-relational writing.	Y = Self-reported likelihood to purchase X = Writing style (relational and non-relational
Hypothesis 3	Moms will have a higher willingness to pay when presented with information from mom bloggers than when presented with information from experts or combination sources.	Y = Self-reported willingness to pay X = Information source (expert, mom blogger, and combination)
Hypothesis 4	Moms will have a higher likelihood of purchase when presented with information from mom bloggers than when presented	Y = Self-reported likelihood of purchase

	with information from experts or combination sources.	X = Information source (expert, mom blogger, and combination)
Hypothesis 5	Moms will rate combination sources highest in trust and helpfulness, followed by experts and then mom bloggers.	Y = Self-reported ratings of trust and helpfulness X = Information source (expert, mom blogger, and combination)

Information treatments are frequently used to test the impact of information on consumers' beliefs and habits, thus they were a good fit to test these hypotheses. The survey was conducted online to reduce cost, to better mimic the information treatment situations (where a mom would read a blog online), and to increase the diversity of mothers who took the survey. Survey questions were selected carefully, drawing from Fowler's recommendations (2014, Ch. 6). After our initial writing, we conducted a Question Answer Survey test and debriefing pre-test which revealed a few problems with the initial questions, which were then corrected.

Lastly, we pre-tested the survey on a group of 10 mothers. This group varied in number of children, age, income, education, religion, race, etc. These volunteers took the survey through an email link and provided comments on the phone or via email. Based on their comments we made a few changes including skipping questions for new moms (currently pregnant) that did not apply to them, broadening the definition of child to include foster children and children by guardianship, and clarified the willingness to pay question, which caused some confusion. Appendix 6 contains all the survey questions.

Figure 5: Survey Flow



The survey information treatments varied across three attributes based on the content analysis of the blogs' A&D and posts (author, relational writing, and product). The author information and posts were created by shortening and tweaking real posts by mom blogs and expert sources. The whole wheat relational information was based a post published on B1 and the whole wheat non-relational information was based on a post published by the Harvard T.H. Chan School of Public Health. The added sugar relational information was based a post published on B1 and the added sugar non-relational information was based on a post published by the Mayo Clinic.

Whole Wheat – Author Options:

- Expert Only: Dr. Smith has been a pediatrician for 20 years. Dr. Smith attended medical school at Johns Hopkins University in Baltimore, and now practices medicine and conducts research at the University of Missouri.
- Mom Blog Only: Laura is a mom of three living in Missouri. Like most moms can relate, she has the biggest influence on her family's eating habits. A few years ago she started a blog about her family's journey to healthy eating -- and it took off! She's helped hundreds of thousands of families to eat healthier (even when they have to juggle budget, time, and picky eaters)!
- Combination: Dr. Laura Smith is a mom of three and an experienced pediatrician. She's been asked so many nutrition questions from parents over the years, and as a mom, she understood the worries. So, a few years ago she started a blog about healthy eating and nutrition, and it took off! Through her blog and her medical practice, she's helped hundreds of thousands of families to live healthier lives.

Whole Wheat – Writing Options:

- Relational: What should be in your kiddos' sandwich bread? As a mom I know that when trying to balance a million things ingredient lists can seem unimportant. But trust me, small health changes will make a big difference for your family. Bread really only takes a few essential ingredients to make bread: flour, water, yeast and maybe a little salt. But I recently counted the ingredients on the label of on my kid's beloved white bread – 40! I was appalled. Our new bread has just five ingredients! Plus, it has whole grains! Whole grains are healthier for you and will fill you and your kids up. Halfway through our first sandwiches with our new bread my family quickly realized we were filling up fast –

because it is real food! I used to fix my 2-year-old a whole peanut butter and jelly sandwich (she loves PB&J), but now she usually fills up on a half. Plus, it is very tasty (and that is coming from a previous picky white bread eater)! Does your family like whole wheat bread?

- Non-relational: Choose whole grains instead of refined grains. Whole grains offer a "complete package" of health benefits, unlike refined grains, which are stripped of valuable nutrients in the refining process. All whole grain kernels contain three parts: the bran, germ, and endosperm. Each section houses health-promoting nutrients. The bran is the fiber-rich outer layer that supplies B vitamins, iron, copper, zinc, magnesium, antioxidants, and phytochemicals, which play a role in disease prevention. The germ is rich in healthy fats, vitamin E, B vitamins, phytochemicals, and antioxidants. The endosperm is the interior layer that holds carbohydrates, protein, and small amounts of some B vitamins and minerals. Bran and fiber slow the breakdown of starch into glucose—thus maintaining a steady blood sugar rather than causing sharp spikes. Fiber helps lower cholesterol as well as move waste through the digestive tract. A growing body of research shows that choosing whole grains and other less-processed, higher-quality sources of carbohydrates, and cutting back on refined grains, improves health in many ways. Consumers should steer towards whole grain foods, such as whole wheat bread, that are high in fiber and that have few additional ingredients.

Added Sugar – Author

- Expert Only: Dr. Johnson has been a pediatrician for 20 years. Dr. Johnson attended medical school at Johns Hopkins University in Baltimore, and now practices medicine and conducts research at the University of Missouri.

- Mom Blog Only: Ava is a mom of three living in Missouri. Like most moms can relate, she has the biggest influence on her family's eating habits. A few years ago, she started a blog about her family's journey to healthy eating -- and it took off! She's helped hundreds of thousands of families to eat healthier (even when they have to juggle budget, time, and picky eaters)!
- Combination: Dr. Ava Johnson is a mom of three and an experienced pediatrician. She's been asked so many nutrition questions from parents over the years, and as a mom, she understood the worries. So, a few years ago she started a blog about healthy eating and nutrition, and it took off! Through her blog and her medical practice, she's helped hundreds of thousands of families to live healthier lives.

Attribute 2: Writing

- Relational: Look, I get it. Everybody loves sugar. Especially your kiddos. But, cutting down on sugar, especially added sugar, IS possible. Added sugar is not good for you, it causes all sorts of diseases and causes your family to gain unhealthy weight. And it seems like there is added sugar in everything these days. This is especially true of juice, which my kiddos usually love. It was a challenge for my family to cut down on added sugars, but after a few weeks my kids forgot about their old favorites and started to love their healthier, no-sugar added products, like their juice boxes. As a mom, I have a major role to play in my family's health and food decisions. Now, I try to read labels and watch out for added sugars. What about you? How do you avoid added sugar? Do your children like real juice, without added sugar?
- Non-relational: Added sugars add calories without adding nutrients. Some evidence suggests there's a relationship between added sugars and obesity, diabetes and heart

disease, but this relationship isn't entirely clear. "Added sugars" are the sugars and syrups added to foods during processing. Desserts, sodas, and energy and sports drinks are the top sources of added sugars for most Americans, but many other foods contain added sugars. Foods with a lot of added sugars contribute extra calories to one's diet but provide little nutritional value. Eating too many foods with added sugars set the stage for potential health problems, such as: poor nutrition, weight gain, tooth decay, and increased risk for many diseases. Consumers should be sure to read labels and avoid added sugar, especially when they reach for juice or other drinks often meant for children.

371 mothers took the survey. Qualtrics conducted recruiting for the survey using their existing systems. Each participant was paid in points, the equivalent of about $2.50. The survey takers had an average of 1.96 children (min: currently pregnant with first; max: 7), which is near the national average of 2.07 children per mother (Pew, 2018). 14.8 percent of moms indicated they had at least one child with food allergies. 21.0 percent of moms indicated they follow a special diet, including gluten-free, vegan, vegetarian, etc. The majority of our survey takers (about 65%) are married, which closely reflected that national trend, where 68% of US mothers that are married (Pew, 2018). Although survey takers varied in education level, income, and age, it was not representative of the national trends in education or income. We had a higher rate of mothers with lower income and fewer years of education than national averages (Pew, 2018). There was some variation in race, but about 80% of survey takers were white, which is close to the Census' finding that 79 percent of all US households are white (2016). Additional demographic details on survey takers can be found in Appendix 7.

Interestingly, the majority of the survey takers had read mom blogs either currently or in the past, used recipes from mom blogs either directly or through an intermediary site, and followed moms they have not met on social media. Table 4 shows these details.

Table 4: Mom Blog/Mom Influencer Interactions

Read Mom Blogs	**Percent of Moms Surveyed**
Do not read mom blogs	39.6%
Do not currently read mom blogs, but have in the past	21.5%
Currently read mom blogs	38.8%
Follow Influencer Moms	**Percent of Moms Surveyed**
Do not follow influencer moms	45.7%
Do not follow influencer moms, but have in the past	6.8%
Currently follow influencer moms	47.5%
Use Recipes from Mom Blogs	**Percent of Moms Surveyed**
Do not use recipes from mom blogs	32.3%
Do not currently use recipes from mom blogs, but have in the past	29.9%
Currently use recipes from mom blogs	37.8%

Survey takers were randomly assigned one of the treatments per food attribute. The order in which they saw the food attributes (whole wheat or added sugar) was also random. Thus, each participant read two treatments. Table 5 and 6 show the variation among survey takers in each treatment group in terms of percent of mom blog readers (either currently or in the past), percent who had previously purchased the food mentioned, the average number of children, and the percent with a financial constraint. We ran also ran Anova tests to verify that there were not significant differences between the groups.

Table 5: Survey Taker Characteristics, by Information Treatment Assigned - Whole Wheat

Treatment	**Number of Readers**	**Percent Mom Blog Readers**	**Percent Previously Bought**	**Avg. Number of Kids**	**Percent with Financial Constraint**
1	57	56.1%	54.4%	2.07	70.2%
2	63	60.3%	57.1%	1.70	74.6%
3	63	60.3%	61.9%	2.00	68.3%
4	66	60.6%	59.1%	1.94	72.7%
5	60	60.0%	61.7%	1.85	75.0%
6	62	64.5%	67.7%	2.24	75.8%

Table 6: Survey Taker Characteristics, by Information Treatment Assigned - Added Sugar

Treatment	Number of Readers	Percent Mom Blog Readers	Percent Previously Bought	Avg. Number of Kids	Percent with Financial Constraint
1	63	71.4%	74.6%	2.10	38.1%
2	60	63.3%	73.3%	1.77	46.7%
3	64	57.8%	70.3%	1.80	37.5%
4	60	56.7%	76.7%	2.17	43.3%
5	64	54.7%	59.4%	1.81	48.4%
6	60	58.3%	75.0%	2.17	45.0%

Willingness to Pay

One measure of influence we used was willingness to pay for an item after being exposed to relational and/or expert writing about the healthiness of that item. We asked mothers to indicate how much they would be willing to spend on a loaf of bread or a bottle of juice with additional healthy qualities (whole wheat bread and juice without added sugar) from 0 to 4 dollars. See Appendix 6 for question details. Each information treatment was taken by between 57 and 66 mothers. The figures below show how willingness to pay varied overall, across author, and across writing style for both Whole Wheat and Added Sugar.

Table 7: Summary Statistics Across Whole Wheat Treatments

Treatment	Mean	Standard Deviation
1	2.377	0.736
2	2.686	0.685
3	2.516	0.701
4	2.453	0.820
5	2.617	0.861
6	2.681	0.733

Table 8: Summary Statistics Across Added Sugar Treatments

Treatment	Mean	Standard Deviation
1	2.69	0.775
2	2.75	0.670
3	2.69	0.726

4	2.43	0.659
5	2.42	0.840
6	2.61	0.656

Table 9: Summary Statistics Across Writers, Whole Wheat

Writer	Mean	Standard Deviation
Mom Blogger	2.60	0.719
Expert	2.42	0.780
Combination	2.65	0.774

Table 10: Summary Statistics Across Writers, Added Sugar

Writer	Mean	Standard Deviation
Mom Blogger	2.65	0.691
Expert	2.56	0.730
Combination	2.58	0.777

Table 11: Summary Statistics Across Writing Style, Whole Wheat

Writing Style	Mean	Standard Deviation
Relational	2.53	0.714
Non-Relational	2.58	0.808

Table 12: Summary Statistics Across Writing Style, Added Sugar

Writing Style	Mean	Standard Deviation
Relational	2.71	0.722
Non-Relational	2.49	0.727

We ran simple regressions to test the relationship between the treatment qualities and the participant's willingness to pay.

$$Willingness\ to\ pay_i = \alpha + \beta_1 Mom\ Blog + \beta_2 Combination + \beta_3 Expert + \beta_4 Relational + \varepsilon_i$$

We found that generally, mothers taking the survey were most highly influenced by mom bloggers, then combination source, and then experts. We found evidence to support H3, as information from mom bloggers were associated with an increase in willingness to pay for both Whole Wheat (23 cents, p-value = 0.015) and the absence of Added Sugar (2 cents, but not

significant p-value = 0.807), when compared to an expert source. The combination source was also more influential than the expert source for Whole Wheat treatments and was associated with an increase of 18 cents (p-value = 0.059). We found some evidence to support H1, as relational writing was associated with an increase in willingness to pay of 22 cents (p-value = 0.003) when compared to non-relational writing for the Added Sugar treatments, however relational writing did not have a significant effect on willingness to pay for whole wheat treatments (p-value = 0.461).

Table 13: Regression results for Whole Wheat Willingness to Pay

	Coefficient	Standard Error	t	P>|t|
Mom Blogs	0.237**	0.097	2.45	0.015
Expert	0	*Omitted*	*Omitted*	*Omitted*
Combination	0.182*	0.096	1.89	0.059
Relational	-0.058	0.079	-0.74	0.461
Constant	2.445	0.078	31.54	0.000

Expert omitted due to multicollinearity, n = 371, R^2=0.018, Aj. R^2=0.011
* *Used to indicate a significance level of p < 0.1*
** *Used to indicate a significance level of p < 0.05*
*** *Used to indicate a significance level of p < 0.01*

Table 14: Regression results for Added Sugar Willingness to Pay

	Coefficient	Standard Error	t	P>|t|
Mom Blogs	0.023	0.092	0.25	0.807
Expert	0	*Omitted*	*Omitted*	*Omitted*
Combination	0.086	0.092	0.93	0.354
Relational	0.223***	0.075	2.96	0.003
Constant	2.451	0.076	32.25	0.000

Expert omitted due to multicollinearity, n = 371, R^2=0.026, Aj. R^2=0.018
* *Used to indicate a significance level of p < 0.1*
** *Used to indicate a significance level of p < 0.05*
*** *Used to indicate a significance level of p < 0.01*

We then added various controls: whether the information agrees with what they had previously heard about the nutrition information, whether they read mom blogs, if they feel financially

constrained when buying groceries, marital status, and whether they were a stay at home mom. We also tried other controls including race, ethnicity, education, etc. and found no significant relationship.

$$Willingness\ to\ pay_i = \alpha + \beta_1 Mom\ Blog + \beta_2 Combination + \beta_3 Expert + \beta_4 Relational + \beta_5 Out\ Info\ Agree + \beta_6 Read\ MB + \beta_7 Constrained + \beta_8 Married + \beta_9 SAHM + \varepsilon_i$$

For Whole Wheat, we see a slight decrease in the significance and magnitude for the impact of mom blog's information (21 cents, p-value = 0.026) when compared to experts, and we find a strong relationship between willingness to pay and mom blog readership (mom blog readers were willing to pay about 28 cents more for a loaf of bread, p-value 0.001). We did not find strong relationships between willingness to pay and the other controls from the whole wheat regression.

Table 15: Regression results for Whole Wheat Willingness to Pay with Controls

	Coefficient	**Standard Error**	**t**	**P>|t|**
Mom Blogs	0.214**	0.096	2.23	0.026
Expert	0	*Omitted*	*Omitted*	*Omitted*
Combination	0.168*	0.095	1.77	0.078
Relational	-0.050	0.078	-0.64	0.523
Prev. Info Agrees (1=yes)	0.030	0.125	0.24	0.811
Reads Mom Blogs (1=yes)	0.278***	0.080	3.48	0.001
Financially Constrained (1=yes)	0.074	0.090	0.82	0.410
Married (1=yes)	0.037	0.084	0.45	0.656
Stay At Home Mom (1=yes)	-0.093	0.080	-1.18	0.240
Constant	2.284	0.154	14.79	0.000

Expert omitted due to multicollinearity, n = 371, R^2=0.056, Aj. R^2=0.036

* *Used to indicate a significance level of p < 0.1*
** *Used to indicate a significance level of p < 0.05*
*** *Used to indicate a significance level of p < 0.01*

For Added Sugar, we see a slight decrease in the significance and magnitude for the impact of relational writing (22 cents, p-value = 0.004) when compared to non-relational writing. We also find a strong relationship between willingness to pay and mom blog readership (mom blog readers were willing to pay about 35 cents more for a bottle of juice, p-value = 0.000) and a

surprising relationship between financial constraint and willingness to pay (those who claimed to be financially constrained at the grocery store were willing to pay 19 additional cents per bottle of juice compared to those who did not feel constrained, p-value = 0.028).

Table 16: Regression results for Added Sugar Willingness to Pay with Controls

	Coefficient	Standard Error	t	P>|t|
Mom Blogs	0.052	0.091	0.58	0.563
Expert	0	*Omitted*	*Omitted*	*Omitted*
Combination	0.113	0.090	1.25	0.212
Relational	0.215***	0.073	2.92	0.004
Prev. Info Agrees (1=yes)	-0.017	0.134	-0.14	0.897
Reads Mom Blogs (1=yes)	0.353***	0.076	4.67	0.000
Financially Constrained (1=yes)	0.186**	0.084	2.21	0.028
Married (1=yes)	0.080	0.079	1.01	0.314
Stay At Home Mom (1=yes)	-0.063	0.075	-0.84	0.402
_cons	2.157	0.160	13.48	0.000

Expert omitted due to multicollinearity, n = 371, R^2=0.098, Aj. R^2=0.078

* *Used to indicate a significance level of p < 0.1*
** *Used to indicate a significance level of p < 0.05*
*** *Used to indicate a significance level of p < 0.01*

Intent to Purchase

Another measure of influence we analyzed was intent to purchase. We asked mothers to tell us if they planned on purchasing the item at their next grocery trip. Overall, intent to purchase was highest for the whole wheat bread when readers were presented with information from mom bloggers in a non-relational style writing. For juice without added sugar, readers presented with information from an expert source in a relational writing style had the highest intent to purchase.

Table 17: Likelihood to Purchase Across Whole Wheat Treatments

Treatment	Mean	Standard Deviation
1	2.38	0.736
2	2.69	0.685
3	2.52	0.701
4	2.45	0.820
5	2.62	0.861
6	2.68	0.733

Table 18: Likelihood to Purchase Across Added Sugar Treatments

Treatment	Mean	Standard Deviation
1	2.69	0.775
2	2.75	0.670
3	2.69	0.726
4	2.43	0.659
5	2.42	0.840
6	2.61	0.656

We ran logit regressions to test the relationship between the treatment qualities and the participant's willingness to pay, as intent to purchase was a dummy variable (1=yes and 0=no).

$$Intent\ to\ Purchase_i = \alpha + \beta_1 Mom\ Blog + \beta_2 Combination + \beta_3 Expert + \beta_4 Relational + \varepsilon_i$$

We find mixed results for H4, as information from mom bloggers were associated with an increase in likelihood to purchase whole wheat bread (p-value = 0.035) when compared with an expert source. Information from mom bloggers was associated with a decrease in likelihood to purchase juice without added sugar (p-value = 0.007), when compared to an expert source. Combination sources were more influential than expert sources for the Whole Wheat treatments and was associated with an increase in likelihood to purchase (p-value = 0.074). Combination sources were not statistically different than expert sources for the Added Sugar treatments. We found mixed results for H2, as relational writing was associated with increase in intent to purchase juice without added sugar (p-value = 0.078) and unassociated with intent to purchase for whole wheat bread.

Table 19: Regression results for Whole Wheat Intent to Purchase

	Coefficient	Standard Error	z	P>|z|
Mom Blogs	0.780**	0.370	2.11	0.035
Expert	0	*Omitted*	*Omitted*	*Omitted*
Combination	0.635*	0.355	2.79	0.074
Relational	-0.297	0.300	-0.66	0.511
_cons	2.460	0.269	5.44	0.000

Expert omitted due to multicollinearity, n = 371, Pseudo R^2=0.0191

* *Used to indicate a significance level of p < 0.1*
** *Used to indicate a significance level of p < 0.05*
*** *Used to indicate a significance level of p < 0.01*

Table 20: Regression results for Added Sugar Intent to Purchase

	Coefficient	Standard Error	z	P>|z|
Mom Blogs	-1.036***	0.385	-2.69	0.007
Expert	0	*Omitted*	*Omitted*	*Omitted*
Combination	-0.416	0.416	-1.00	0.317
Relational	0.536*	0.304	1.76	0.078
_cons	2.075	0.340	6.11	0.000

Expert omitted due to multicollinearity, n = 371, Pseudo R^2=0.038
* *Used to indicate a significance level of p < 0.1*
** *Used to indicate a significance level of p < 0.05*
*** *Used to indicate a significance level of p < 0.01*

We then added additional controls.

$$Intent\ to\ Purchase_i = \alpha + \beta_1 Mom\ Blog + \beta_2 Combination + \beta_3 Expert + \beta_4 Relational + \beta_5 Out\ Info\ Agree + \beta_6 Read\ MB + \beta_7 Constrained + \beta_8 Married + \beta_9 SAHM + \varepsilon_i$$

For Whole Wheat, we see a decrease in the significance and magnitude for the impact of mom blog's information (p-value = 0.090) when compared to experts, and we find a very strong relationship between previous knowledge on the subject and intent to purchase (p-value = 0.000) and a relationship between marital status and intent to purchase (p-value = 0.024). We did not find strong relationships between intent to purchase and the other controls for the whole wheat regression.

Table 21: Regression results for Whole Wheat Intent to Purchase with Controls

	Coefficient	Standard Error	z	P>|z|
Mom Blogs	0.654*	0.385	1.70	0.090
Expert	0	*Omitted*	*Omitted*	*Omitted*
Combination	0.637*	0.375	1.70	0.089
Relational	-0.140	0.315	-0.44	0.658
Prev. Info Agrees (1=yes)	1.475***	0.379	3.89	0.000
Reads Mom Blogs (1=yes)	0.502	0.340	1.48	0.139
Financially Constrained (1=yes)	0.242	0.322	0.75	0.451
Married (1=yes)	0.716**	0.316	2.26	0.024

Stay At Home Mom (1=yes)	-0.035	0.319	-0.11	0.912
_cons	-0.430	0.477	-0.90	0.367

Expert omitted due to multicollinearity, n = 371, Pseudo R^2=0.098

* *Used to indicate a significance level of p < 0.1*
** *Used to indicate a significance level of p < 0.05*
*** *Used to indicate a significance level of p < 0.01*

For Added Sugar, we see a decrease in the significance and magnitude for the impact of mom blog's information. We find that mothers presented with mom blog information were less likely (p-value = 0.026) to intend to purchase when compared to those presented expert information. The impact of relational writing decreased (p-value = 0.069). We find a very strong relationship between previous knowledge on the subject and intent to purchase (p-value = 0.000) and small relationship between mom blog readership and intent to purchase (p-value = 0.060.

Table 22: Regression results for Added Sugar Intent to Purchase with Controls

	Coefficient	Standard Error	z	P>|z|
Mom Blogs	-0.898**	0.404	-2.22	0.026
Expert	0	*Omitted*	*Omitted*	*Omitted*
Combination	-0.378	0.435	-0.87	0.385
Relational	0.585*	0.322	1.82	0.069
Prev. Info Agrees (1=yes)	1.718***	0.419	4.10	0.000
Reads Mom Blogs (1=yes)	0.666*	0.354	1.88	0.060
Financially Constrained (1=yes)	0.133	0.320	0.42	0.677
Married (1=yes)	0.117	0.331	0.35	0.723
Stay At Home Mom (1=yes)	0.329	0.327	1.01	0.315
_cons	0.023	0.548	0.04	0.967

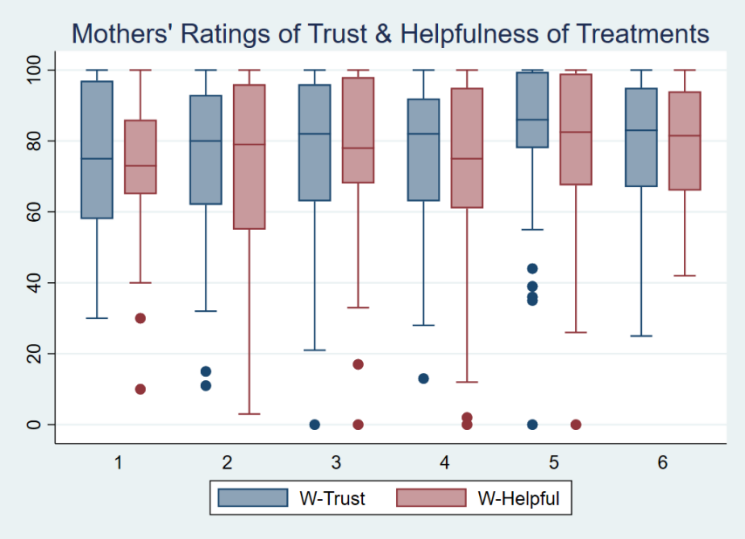
Expert omitted due to multicollinearity, n = 371, Pseudo R^2=0.118

* *Used to indicate a significance level of p < 0.1*
** *Used to indicate a significance level of p < 0.05*
*** *Used to indicate a significance level of p < 0.01*

Ratings of Helpfulness and Trust

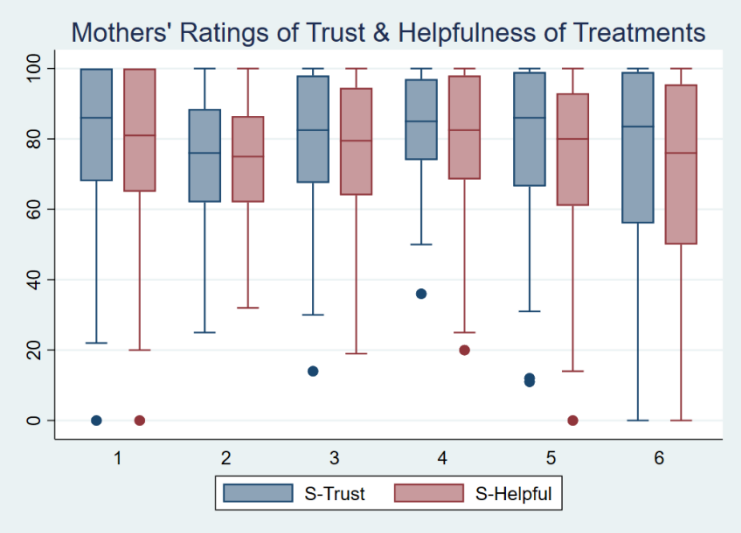
Each mother was asked to rate the helpfulness and trustworthiness of the information they read. Overall, we found that information on Whole Wheat from mom bloggers written in a non-relational style was rated most trusted and rated most helpful on average (see figure below).

Figure 6: Whole Wheat Ratings across Treatments



Similarly, we found that information on Added Sugar from an expert source written in non-relational style was rated most trusted and rated most helpful on average (see figure below).

Figure 7: Added Sugar Ratings across Treatments



We ran simple regressions to test the relationship between the sources and the survey takers' ratings of trust and helpfulness.

$$Rating\ of\ Trust_i = \alpha + \beta_1 Mom\ Blog + \beta_2 Combination + \beta_3 Expert + \beta_4 Relational + \varepsilon_i$$

$$Rating\ of\ Helpfulness_i = \alpha + \beta_1 Mom\ Blog + \beta_2 Combination + \beta_3 Expert + \beta_4 Relational + \varepsilon_i$$

From this, we find mixed results for H5, as we find some relationship between helpfulness and author in the whole wheat treatments, although combination sources were considered most helpful, followed by mom bloggers, then experts.

Specifically, For Whole Wheat, we find that combination sources were associated with the highest ratings of helpfulness (p-value = 0.084) and mom bloggers were associated with the highest levels of trust (p-value = 0.181), although not very significant. Relational writing was associated with lower levels of trust (p-value = 0.102) and helpfulness (p-value = 0.279), although not significant.

Table 23: Relationship between Rating of Helpfulness and Treatment Qualities – Whole Wheat

	Coefficient	Standard Error	t	P>|t|
Mom Blogs	3.180	2.686	1.18	0.237
Expert	0	*Omitted*	*Omitted*	*Omitted*
Combination	4.630*	2.675	1.73	0.084
Relational	-2.374	2.188	-1.08	0.279
_cons	74.751	2.152	34.74	0.000

Expert omitted due to multicollinearity, n = 371, R^2=0.011, Aj. R^2=0.003

* *Used to indicate a significance level of p < 0.1*

** *Used to indicate a significance level of p < 0.05*

*** *Used to indicate a significance level of p < 0.01*

Table 24: Relationship between Rating of Trust and Treatment Qualities – Whole Wheat

	Coefficient	Standard Error	t	P>|t|
Mom Blogs	3.563	2.660	1.34	0.181
Expert	0	*Omitted*	*Omitted*	*Omitted*
Combination	1.901	2.653	0.72	0.471
Relational	-3.541	2.162	-1.64	0.102
_cons	77.316	2.120	36.47	0.000

Expert omitted due to multicollinearity, n = 371, R^2=0.012, Aj. R^2=0.004

* *Used to indicate a significance level of p < 0.1*

** *Used to indicate a significance level of p < 0.05*

*** *Used to indicate a significance level of p < 0.01*

For Added Sugar we find a that mom bloggers are associated with a decreased rating of trust (p-value = 0.066) and helpfulness (p-value = 0.066), when compared to experts, although not very significant. We also find that combination sources were associated with a decreased rating of trust (p-value = 0.186) and helpfulness (p-value = 0.098), although not very significant. We see no significant relationship between relational writing and helpfulness or trustworthiness for Added Sugar treatments.

Table 25: Relationship between Rating of Trust and Treatment Qualities – Added Sugar

	Coefficient	Standard Error	t	P>|t|
Mom Blogs	-4.852*	2.628	-1.85	0.066
Expert	0	*Omitted*	*Omitted*	*Omitted*
Combination	-3.480	2.627	-1.32	0.186
Relational	-1.793	2.145	-0.84	0.404
_cons	82.284	2.161	38.07	0.000

Expert omitted due to multicollinearity, n = 371, R^2=0.012, Aj. R^2=0.003
* *Used to indicate a significance level of p < 0.1*
** *Used to indicate a significance level of p < 0.05*
*** *Used to indicate a significance level of p < 0.01*

Table 26: Relationship between Rating of Helpfulness and Treatment Qualities – Added Sugar

	Coefficient	Standard Error	t	P>|t|
Mom Blogs	-5.163*	2.796	-1.85	0.066
Expert	0	*Omitted*	*Omitted*	*Omitted*
Combination	-4.641*	2.795	-1.66	0.098
Relational	1.057	2.282	0.46	0.644
_cons	78.434	2.300	34.11	0.000

Expert omitted due to multicollinearity, n = 371, R^2=0.012, Aj. R^2=0.004
* *Used to indicate a significance level of p < 0.1*
** *Used to indicate a significance level of p < 0.05*
*** *Used to indicate a significance level of p < 0.01*

We also ran correlation tests between willingness to pay measures and intent to purchase. Although they were positively correlated, the relationship was very small (0.30 for Whole Wheat treatments and 0.18 for Added Sugar treatments).

Differences between Added Sugar and Whole Wheat

Although we did not expect this, we saw differences between the survey results for Added Sugar and Whole Wheat treatments. One possible explanation comes from our findings in the qualitative content analysis. We found that imperfections were often followed by relational writing that attributed success to the blog. The relational writing for the added sugar information treatment included a mention of difficulty/imperfection ("it was a challenge for my family") whereas the whole wheat relational writing treatment did not. This could point to a relationship, where relational writing is more influential with the imperfection/solution combination.

However, we tested the differences of means between willingness to pay for whole wheat ($\mu=2.556$) and added sugar ($\mu=2.559$) using a t-test, and we did not find significant differences. We also tested the differences of means for intent to purchase between whole wheat ($\mu=0.857$) and added sugar ($\mu=0.854$) and found no significant difference. For details on both tests see Appendix 8.

Final Remarks

Mom bloggers, and more broadly, mom influencers are increasingly making their mark on food and health trends. Moms reading these blogs are seeking out information on a variety of important topics including health and wellness, pregnancy and newborns, parenting, and cooking (Wright and Page, 2009). Additionally, as mom influencers have become more well-known, companies have begun pouring money into them, asking the moms to back their products; and only some of the online influencers formally disclose their funding. Informally, media has associated mom bloggers' advice with changes in important consumer behavior – for example, their endorsement of baby lounger products and increases in risk of sudden infant death syndrome (Milne, 2017). At this point, there is little academic evidence that formally tests the

influence of mom bloggers, although there are a small number of studies that have looked at the role of mom blogs in increasing parental resistance to children's vaccines. This study helps us begin to understand the level of influence and the mechanisms for influence that mom bloggers have. In turn, we can use this information and future research to increase the influence of traditional sources of nutrition information (for example, the FDA, the USDA, and pediatric boards), we can better engage with mom bloggers to encourage safe and accurate information be disseminated as suggested by previous opinion leader research (Burke-Garcia, 2017), and lastly, we can begin to better assess the influence of mom bloggers on nutrition in the US. This study provides us with a case study, which we can apply to many other online influencers and potential layperson opinion leaders.

The analysis of 22 mom blogs and over 155,000 blog posts generally lined up with a small existing literature on mom blogs, and together, they seemed to suggest that well followed mom bloggers are influential in part, simply by being mothers who share their experiences publicly. Moms in our survey who read treatments from mom bloggers had higher willingness to pay for the nutritious foods and higher likelihood to purchase the nutritious foods than those who read information from experts. This relationship was much stronger for Whole Wheat than Added Sugar though, which gives us mixed evidence to support the influence of mom bloggers. We found little evidence that experts could harness this power by being expert and mom blog combination opinion leaders. Both the literature on mom blogs and our analysis of the A&D sections and blog posts noted that relational writing could be a key component of mom blogs' influence. Our findings were mixed, finding that relational writing did increase willingness to pay and intent to purchase for juice without Added Sugar, perhaps because it was combined with

admittance of imperfection. We do find some evidence that mom bloggers, and perhaps other layperson influencers, can be effective opinion leaders.

Additional research will need to be conducted to strengthen these relationships, as our findings were limited by our survey's sample size (371 moms) and in statistical strength. The use of an online survey also meant we had a higher percentage of low-income moms, moms with fewer years of education, and stay at home mothers than is nationally representative. Additionally, we believe that because our treatments used theoretical information sources, the influence of a known expert, say your child's pediatrician, or a long-time followed mom blogger may be stronger than what we found here. Specifically testing the influence of a well-followed mom blogger via increases in purchases of endorsed links, for example, would be a more direct way to measure the influence. We also believe additional research is also needed to investigate how these influences vary across other consumer groups (e.g. those without children or fathers) and across other food or health issues (e.g. genetically modified foods, vaccines, etc.). Additionally, how the mom influencers' messages have changed as their primary method of transmission has moved from blogs to social networks also warrants further research. Overall, this study provides us with an important case study, which helps us begin to understand the influence of layperson opinion leaders and gives us some insight to the influence of mom bloggers on the food habits and beliefs of moms.

Appendix 1 – Definitions

Mom influencers: mom influencers are different from mom bloggers, as they use their social media platforms as their primary method of influence. Increasingly, readers are shifting their interactions with mom bloggers to their social media platforms. In the future, the blog may play the role of an archive.

Multi-mom blog: a blog which includes posts from multiple, reoccurring writers. Many of the mom blogs in the sample began as a solo writer, but as the blog became larger, they hired additional writers or combined with other blogs. Some multi-mom blogs have media company managers.

Appendix 2 – Blogs

We selected 22 blogs using the 2014 Cision list, which indicated they had historically a large audience. This list was chosen based on Cision Digital Reach, Twitter followers, and inbound links. We then manually evaluated blogs for current social reach. We collected follower numbers from Facebook, Instagram, YouTube, Twitter, and Pinterest, and summed their total followers as of April 21, 2018, which gave us a good idea if the blog has been active and well-followed over the past four years. We then eliminated the blogs that do not meet criteria.

- Eliminate if they have less than 100,000 followers on social platforms currently
    - Cumulative followers was calculated as the sum of the five social platforms, without taking into account that there may be some overlap
- Eliminate if they do not include food as a focus
    - Focus was evaluated by the blog's homepage, and whether or not it had a subsection about food, recipes, etc.
- 26 blogs were eliminated
    - 3 blogs were eliminated solely because they did not have a food focus
    - 15 blogs were eliminated solely because they did not have a current following over 100,000 on the five social platforms
    - 6 blogs were eliminated for both lacking a food focus and followers
    - 1 blog was eliminated because it combined with another blog during the 4 years
    - 1 blog was eliminated due to malware warning
- Note: FunCheapOrFree was added as a substitute when one blog, HungryFoodLove was unable to be used.

22 fit all the criteria to be kept:

- 7 are multi-mom blogs, 15 are one-mom blogs
- 2 are solely focused on food, 20 are focused on multiple topics including food
- The 22 blogs have an average cumulative following of 328,200 people
    - Max: 1,926,356
    - Min: 100,847

Appendix 3 – Blogger Demographics

Demographic data was collected using only the information available on the blog's About or Disclosure sections. Below you can find information on the CEO/founders of the blogs and about all the writers publicly available in the tables below.

Blog founders' demographic details

CODE	FILE	MULTIMOM	KIDS	RELIGION	MARITAL	TWITTER_F	INSTA_F	YOUTUBE_F	FACEBOOK_F	PINTEREST	RACE	EDUCATION	START
B1	100 Days of Real Food	NO	2	NO INFO	MARRIED	25509	122168	7557	1651077	120045	CAUCASIAN	NO INFO	2010
B2	A Moms Take	YES	5	NO INFO	MARRIED	75871	4233	1299	19181	29876	CAUCASIAN	BACHELORS	2010
B3	Dear Crissy	NO	2	CHRISTIAN	MARRIED	84865	21273	12853	190789	180086	CAUCASIAN	NO INFO	2009
B4	Cool Mom Picks	YES	4	NO INFO	NO INFO	515417	19273	177	134433	135197	CAUCASIAN	PHD	2006
B5	Design Mom	NO	6	NO INFO	MARRIED	27770	53170	0	53195	149835	CAUCASIAN	BACHELORS	2006
B6	Family Focus Blog	YES	2	NO INFO	MARRIED	95588	19494	882	27566	20541	CAUCASIAN	BACHELORS	2010
B7	Fun Cheap Free	NO	5	LDS	MARRIED	3267	115613	189374	54032	83897	CAUCASIAN	BACHELORS	2010
B8	Jens Blah Blah Blog	YES	4	NO INFO	MARRIED	39857	17221	976	35987	40065	CAUCASIAN	NO INFO	2013
B9	Lady and the Blog	NO	3	CHRISTIAN	MARRIED	78738	59465	20448	18458	50078	CAUCASIAN	BACHELORS	2009
B10	Mama's Loosin' It	NO	3	NO INFO	MARRIED	20528	19003	49432	5843	6041	OTHER	BACHELORS	2007
B11	Marnavation	NO	3	NO INFO	MARRIED	38251	6973	404	191452	19818	CAUCASIAN	MASTERS	2011
B12	Mom Blog Society	YES	3	NO INFO	MARRIED	272267	15825	4453	53890	13427	CAUCASIAN	NO INFO	2014
B13	Mom Does Reviews	YES	1	NO INFO	MARRIED	105537	20933	6040	50274	30410	CAUCASIAN	OTHER TRAINING	2014
B14	Mom Trends	YES	2	NO INFO	MARRIED	74388	8631	5825	14058	33480	CAUCASIAN	BACHELORS	2007
B15	Pretty Prudent	YES	3	NO INFO	MARRIED	11717	11963	15798	25469	45982	CAUCASIAN	NO INFO	2014
B16	Shibley Smiles	NO	3	NO INFO	MARRIED	61249	4878	684	13831	52427	CAUCASIAN	NO INFO	2010
B17	Slap Dash Mom	NO	3	NO INFO	SINGLE	45855	19655	2625	29843	43198	CAUCASIAN	NO INFO	2000
B18	Sweet T Makes Three	NO	2	NO INFO	MARRIED	55358	25014	123	10313	52169	CAUCASIAN	NO INFO	2012
B19	The Taylor House	NO	2	NO INFO	MARRIED	37989	20734	21	71196	68004	CAUCASIAN	NO INFO	2011
B20	Thrifty Nifty Mommy	NO	5	CHRISTIAN	MARRIED	47883	20098	5184	78380	25936	CAUCASIAN	NO INFO	2010
B21	Thriftyy Northwest Mom	YES	2	CHRISTIAN	MARRIED	31531	3368	18	63877	13123	CAUCASIAN	MASTERS	2009
B22	24/7 Moms	YES	5	NO INFO	MARRIED	44247	2290	25	730378	16538	CAUCASIAN	NO INFO	2009

NOTE: Information for multi-mom blogs is based on the founder/CEO and information was gleaned solely from the blog's About and Disclosure Sections

Blog writers' demographic details

CODE	TITLE	MULTIMOM	KIDS	RELIGION	MARITAL	RACE	EDUCATION	START	Writers	TWITTER_F	INSTA_F	YOUTUBE_F	FACEBOOK_F	PINTEREST
B1	100 Days of Real Food	NO	2	NO INFO	MARRIED	CAUCASIAN	NO INFO	2010	1	25509	122168	7557	1651077	120045
B2	A Moms Take	YES	5	NO INFO	MARRIED	CAUCASIAN	BACHELORS	2010	4	75871	4233	1259	19181	29876
			5	NO INFO	MARRIED	CAUCASIAN	NO INFO							
			2	NO INFO	MARRIED	CAUCASIAN	BACHELORS							
			4	NO INFO	MARRIED	CAUCASIAN	NO INFO							
			3	NO INFO	MARRIED	CAUCASIAN	BACHELORS							
B3	Dear Crissy	NO	2	CHRISTIAN	MARRIED	CAUCASIAN	NO INFO	2009	1	84885	21273	12853	190789	180868
B4	Cool Mom Picks	YES	4	NO INFO	NO INFO	CAUCASIAN	PHD	2008	12	515417	19273	177	134433	135197
			2	NO INFO	NO INFO	CAUCASIAN	BACHELORS							
			2	NO INFO	NO INFO	CAUCASIAN	MASTERS							
			4	NO INFO	NO INFO	CAUCASIAN	NO INFO							
			2	NO INFO	MARRIED	CAUCASIAN	NO INFO							
			1	NO INFO	MARRIED	CAUCASIAN	BACHELORS							
			2	NO INFO	MARRIED	CAUCASIAN	NO INFO							
			NO INFO	NO INFO	NO INFO	BLACK	NO INFO							
			1	NO INFO	NO INFO	CAUCASIAN	HER TRAINING							
			2	NO INFO	MARRIED	ASIAN	NO INFO							
			3	NO INFO	NO INFO	CAUCASIAN	MASTERS							
			2	NO INFO	NO INFO	CAUCASIAN	NO INFO							
B5	Design Mom	NO	6	NO INFO	MARRIED	CAUCASIAN	BACHELORS	2008	1	27770	53170	0	53195	149835
B6	Family Focus Blog	YES	2	NO INFO	MARRIED	CAUCASIAN	BACHELORS	2010	9	95588	19494	882	27588	20541
			2	NO INFO	MARRIED	CAUCASIAN	NO INFO							
			2	NO INFO	MARRIED	CAUCASIAN	BACHELORS							
			2	NO INFO	MARRIED	CAUCASIAN	NO INFO							
			2	NO INFO	MARRIED	CAUCASIAN	NO INFO							
			1	NO INFO	NO INFO	CAUCASIAN	NO INFO							
			1	CHRISTIAN	MARRIED	CAUCASIAN	NO INFO							
			1	NO INFO	MARRIED	CAUCASIAN	NO INFO							
			NO INFO	NO INFO	NO INFO	ASIAN	NO INFO							
B7	Fun Cheap Free	NO	5	LDS	MARRIED	CAUCASIAN	BACHELORS	2010	1	3287	115613	189374	54032	83897
B8	Jess Blah Blah Blog	YES	4	NO INFO	MARRIED	CAUCASIAN	NO INFO	2013	11	39857	17221	978	35987	40065
			4	NO INFO	MARRIED	CAUCASIAN	ASSOCIATES							
			0	NO INFO	NO INFO	CAUCASIAN	NO INFO							
			NO INFO	NO INFO	MARRIED	CAUCASIAN	BACHELORS							
			1	NO INFO	MARRIED	CAUCASIAN	NO INFO							
			1	NO INFO	MARRIED	CAUCASIAN	BACHELORS							
			2	NO INFO	SINGLE	CAUCASIAN	NO INFO							
			3	NO INFO	NO INFO	CAUCASIAN	NO INFO							
			2	NO INFO	MARRIED	CAUCASIAN	NO INFO							
			3	NO INFO	NO INFO	CAUCASIAN	BACHELORS							
			3	NO INFO	MARRIED	CAUCASIAN	NO INFO							
B9	Lady and the Blog	NO	3	CHRISTIAN	MARRIED	CAUCASIAN	BACHELORS	2009	1	76738	59465	20448	18458	50078
B10	Mama's Loosin' It	NO	3	NO INFO	MARRIED	OTHER	BACHELORS	2007	1	20528	19003	49432	5843	6041
B11	Mamavation	NO	3	NO INFO	MARRIED	CAUCASIAN	MASTERS	2011	1	38251	8973	404	191452	19818
B12	Mom Blog Society	YES	3	NO INFO	MARRIED	CAUCASIAN	NO INFO	2014	NO INFO	272287	15825	4453	53890	13427
B13	Mom Does Reviews	YES	1	NO INFO	MARRIED	CAUCASIAN	HER TRAINI	2014	NO INFO	105537	20933	6040	50274	30410
B14	Mom Trends	YES	2	NO INFO	MARRIED	CAUCASIAN	BACHELORS	2007	NO INFO	74088	8631	5825	14058	33480
B15	Philly Prudent	YES	3	NO INFO	MARRIED	CAUCASIAN	NO INFO	2014	4	11717	11983	15798	25489	45982
			1	NO INFO	NO INFO	CAUCASIAN	NO INFO							
			NO INFO	NO INFO	NO INFO	CAUCASIAN	NO INFO							
			1	NO INFO	NO INFO	CAUCASIAN	NO INFO							
B16	Shibley Smiles	NO	3	NO INFO	MARRIED	CAUCASIAN	NO INFO	2010	1	61249	4878	684	13831	52427
B17	Slap Dash Mom	NO	3	NO INFO	SINGLE	CAUCASIAN	NO INFO	2000	1	49855	19855	2825	29843	43158
B18	Sweet T Makes Three	NO	2	NO INFO	MARRIED	CAUCASIAN	NO INFO	2012	1	55358	25014	123	10313	52169
B19	The Taylor House	NO	2	NO INFO	MARRIED	CAUCASIAN	NO INFO	2011	1	37689	20734	21	71198	68004
B20	Thrifty Nifty Mommy	NO	5	CHRISTIAN	MARRIED	CAUCASIAN	NO INFO	2010	1	47683	20098	5184	78380	25936
B21	Thrifyy Northwest Mom	YES	2	CHRISTIAN	MARRIED	CAUCASIAN	MASTERS	2009	5	31531	3368	18	63877	13123
			3	CHRISTIAN	MARRIED	CAUCASIAN	BACHELORS							
			2	NO INFO	MARRIED	CAUCASIAN	NO INFO							
			3	NO INFO	MARRIED	CAUCASIAN	NO INFO							
			NO INFO	NO INFO	NO INFO	CAUCASIAN	NO INFO							
B22	24/7 Moms	YES	5	NO INFO	MARRIED	CAUCASIAN	NO INFO	2008	4	44047	2290	25	730378	16538
			NO INFO	NO INFO	NO INFO	NO INFO	NO INFO							
			NO INFO	NO INFO	NO INFO	NO INFO	NO INFO							
			NO INFO	NO INFO	NO INFO	NO INFO	NO INFO							

Appendix 4 – Final Codebook

Theme – Community

- Trust: words used to convey trust and honesty of the bloggers, used to show that the bloggers will do a good job and will be truthful.
- Similar Values: words used to convey that the blogger believes in similar values as the reader. These are usually used to show that the blog represents a subgroup of motherhood, including political affiliation, religion, and many isms (minimalism, veganism, etc.).
- Blog Support: This is also the place where bloggers can show that they (the writers or the blog itself) can support their readers through the good and bad parts of motherhood.
- Team: words used to convey that motherhood is not done alone. These quotes show that husbands, friends, co-bloggers, etc. are the invaluable support system.
- Previous Experience: shows that the writers of the blog have previous experience or education. These qualifications can be directly related to the blog (for example an English degree or a marketing position), to motherhood (for example professional child care experience or a nursing degree), or unrelated (for example a degree in astronomy). Importantly, this code does not include motherhood experience (for example, number of years at a stay at home mother).

Theme – Real Life Motherhood

- Imperfections: these words and phrases convey that the blogger or the readers are not perfect. This can apply to motherhood, writers, wives, friends, etc. It can also refer to qualities bloggers have or used to have widely known to be considered "imperfections," including obesity, anxiety, debt, etc.

- Mother Role: these words are used to convey the duties and basic information of motherhood. These include when a blogger is describing the number of kids they have and their description of motherhood. This code is also used for the acceptance or rejection of traditional motherhood roles including cooking, shopping, and child rearing.
- Humor: this code is used when bloggers make a joke or use sarcasm. The jokes can be about motherhood or unrelated topics. This code can also be used if they describe themselves, their readers, or their families as being humorous.
- Busy: this code is used to convey that the life of the blogger or the readers is very hectic. It is usually used to describe how difficult it is to balance motherhood, career, family, friends, etc.
- Me time: this code is used to describe what the bloggers or the readers do in their free time. These activities should be kid-free. The blog is sometimes described as a way to gain "me time."

Theme – Legal

- Payment: this code includes words and phrases that describe how the blog receives payments.
- Blog Rules: this code conveys information about the way the blog operates. These blog rules may be directed towards readers, advertisers, commenters, etc. Importantly, any blog rules that refer to payments should be categorized as Payment.
- Endorsement: this code is used when a blogger uses a company, celebrity, or award as an endorsement of the blog. This code can also be used if the blogger uses their own data (for example the number of followers) to endorse the blog.

Appendix 5 – Intercoder Agreement

After initial coding the overall coder agreement was 76.6%, which did not meet minimum coder agreement standards were updated. Then, both coders met and discussed changes and areas of confusion. The following changes were then put into place:

- Both coders reviewed the material to find or correct the codes Busy and Imperfections.
- One code was deleted due to high levels of overlap (Stay at Home Mom) and was absorbed into Motherhood Role.
- Two clarifications were made:
    - First: The code Payment should encompass any blog rules or discussion of money/payment. Blog rules will include all blog rules/discussion that does not include money.
    - Second: the code Endorsement should only include external endorsement or a use of their own data/stats to endorse the blog.
- One code was split into two:
    - Support would be split into Blog Support and Team
    - Blog Support would refer to words that convey that the blogger or the blog itself is there to support their readers.
    - Team should refer to the blogger's real-life support team including husbands, wives, parents, grandparents, friends, etc.

After the above changes were made by both coders separately, the agreement levels were above 80 percent for every category seen in table below, which meets inter-coder agreement standards.

Intercoder Agreement Test

CODE	AGREE ABSENT	AGREE PRESENT	DISAGREE	PERCENT	ALPHA
Blog Rules	3	16	3	86.4%	0.590
Blog Support	3	16	3	86.4%	0.590
Busy	2	16	4	81.8%	0.403
Endorsement	7	13	2	90.9%	0.808
Humor	7	12	3	86.4%	0.719
Imperfections	8	11	3	86.4%	0.728
Me Time	8	12	2	90.9%	0.816
Mother Role	2	19	1	95.5%	0.779
Payment	2	18	2	90.9%	0.623
Previous Experience	7	15	0	100.0%	1.000
Similar Values	4	14	4	81.8%	0.552
Team	12	7	3	86.4%	0.719
Trust	2	16	4	81.8%	0.403
TOTAL	67	185	34	88.1%	0.714

Probability of frames following the Imperfection frame

Previous Experience	**Similar Values**	**Trust**	**Team**	**Blog Support**	**Busy**	**Humor**	**Me Time**	**Mother Role**	**Blog Rules**	**Endorsement**	**Payment**
--	0.539	0.430	0.413	0.029**	0.679	0.570	0.549	0.078*	0.294	--	--

Appendix 6 – Survey Questions

Start of Block: Consent

Purpose: To understand mothers' preferences about foods.
Time required: Approximately 20 minutes.
Procedures: Your participation in this study is voluntary and you can withdraw at any time. You must be 18 years old to participate in this study.
Risk to participants: None. Your survey responses are anonymous.
Benefit to Participants: You will receive reward points for your participation. You will also contribute to the advancement of scientific knowledge.
Contact for questions about the research: Maria Kalaitzandonakes (mhk228@cornell.edu)
Contact for questions about rights as a research participant: Cornell University Institutional Review Board for Human Participants (irbhp@cornell.edu)
You may also report your concerns or complaints anonymously through Ethicspoint online at www.hotline.cornell.edu or by calling toll free at 1-866-293-3077. Ethicspoint is an independent organization that serves as a liaison between the University and the person bringing the complaint so that anonymity can be ensured.

Completing and returning this survey constitutes your consent for your survey responses to be used in this research project.

End of Block: Consent

Start of Block: Screening

Are you a mother of a child under 18 years old or a soon-to-be mother (currently pregnant)?

o Yes, I am a soon-to-be mother

o Yes, I am a mother of at least one child under 18

o I am neither of these

End of Block: Screening

Start of Block: Whole Wheat [the order of this block was randomized, survey takers were

presented with Whole Wheat OR Added Sugar first]

To start, please read the text about a food product and the author carefully. Then, answer the questions about the reading to the best of your abilities.

[Random Information Treatment Whole Grain Bread 1-6]

Did the information you read about whole wheat bread generally agree with what you have learned outside this study?

o Yes

o No

When you buy bread, do you generally buy whole wheat?

o Yes

o No

After reading the information, how likely are you to buy whole wheat bread on your next grocery trip?

o Very likely

o Somewhat likely

o Somewhat unlikely

o Very unlikely

A regular loaf of bread typically costs $2.00. How much would you be willing to pay for a loaf made with whole grain? (use the slider below to indicate)

Less Same More
0 2 4

Rank the helpfulness of the information you just read.
Not at all helpful As helpful as possible
0 50 100

Rank the trustworthiness of the information you just read.
Not at all trustworthy As trustworthy as possible

End of Block: Whole Wheat

Start of Block: Added Sugar

To start, please read the text about a food product and the author carefully. Then, answer the questions about the reading to the best of your abilities.

[Random Information Treatment Added Sugar 1-6]

Did the information you read about juice without added sugar generally agree with what you have learned outside this study?

o Yes

o No

When you buy juice, do you generally buy juice without added sugar?

o Yes

o No

After reading the information, how likely are you to buy juice without added sugar on your next grocery trip?

o Very likely

o Somewhat likely

o Somewhat unlikely

o Very unlikely

A regular bottle of juice typically costs $2.00. How much would you be willing to pay for a bottle of juice made without added sugar? (use the slider below to indicate)

Less Same More
0 2 4

Rank the helpfulness of the information you just read.
Not at all helpful As helpful as possible
0 50 100

Rank the trustworthiness of the information you just read.
Not at all trustworthy As trustworthy as possible

End of Block: Added Sugar

Start of Block: Media Habits

Thank you for answering the questions about the food products. Now we'd like to know a little bit more about you and your family!

How often do you look at social media?

o At least once per hour

o Multiple times per day

o Once per day

o Every few days

o Once per week

o Less than once per week

o Never

Which social media sites do you use? Check all that apply.

☐ Facebook

- ☐ Instagram
- ☐ Twitter
- ☐ YouTube
- ☐ Pinterest
- ☐ Snapchat
- ☐ Other _____
- ☐ I am not on social media

Do you read any "mom blogs"?
For example: Ree Drummond from the The Pioneer Woman, Lisa Leake from 100 Days of Real Food, Leah Segedie from Mamavation, Gabrielle Blair from Design Mom, etc.

- o Yes
- o No
- o Not currently, but in the past yes

Do you follow moms on social media that you have not met in "real life"?
For example: Ree Drummond from the The Pioneer Woman, Lisa Leake from 100 Days of Real Food, Leah Segedie from Mamavation, Gabrielle Blair from Design Mom, etc.

- o Yes
- o No
- o Not currently, but in the past yes

Do you use recipes from "mom blogs," either directly or through an intermediary site like Pinterest?

- o Yes, directly
- o Yes, through an intermediary site
- o No

When making a major purchase for your family, which of the following have a major influence on your purchasing decision? (check all that apply)

- ☐ Recommendation from other mothers I know
- ☐ Recommendation from an expert (ex. doctor)
- ☐ Recommendations from online reviewers or bloggers
- ☐ Price
- ☐ Promotions or discounts
- ☐ Brand names
- ☐ Convenience

End of Block: Media Habits

Start of Block: Food Habits

Do any of your children have the following allergies?

- ☐ Nuts
- ☐ Dairy
- ☐ Gluten
- ☐ Other _____
- ☐ My children do not have food allergies

Do you consider your children to be "picky eaters"?

- o Yes
- o No

Do you follow any specific diets?

- ☐ Vegetarian
- ☐ Vegan
- ☐ Gluten Free
- ☐ Other _____
- ☐ I do not follow any specific diet

Do your children follow any specific diets?

- ☐ Vegetarian
- ☐ Vegan
- ☐ Gluten Free
- ☐ Other _____
- ☐ They do not follow any specific diets

What best describes where you buy the majority of your groceries?

- o Large box store (ex. Target or Walmart)
- o Local grocery store chain (ex. Wegmans or Schnucks)
- o Discount retailer (ex. Aldi or Save a Lot)
- o Wholesale Club (ex. Costco or Sams)
- o Natural grocery store

o Farmers market or co-op

Do you generally feel constrained by your budget at the grocery store?

o Strongly yes

o Yes

o No

o Strongly no

End of Block: Food Habits

Start of Block: Demographics

What is your current age?

o 18-24

o 25-29

o 30-34

o 35-39

o 40+

How many children do you care for?

o Currently pregnant with my FIRST child

o 1 child

o 2 children

o 3 children

o 4 children

o 5 or more children

What age is your first child?

_____

What age is your second child?

_____

What age is your third child?

_____

What age is your fourth child?

_____

What ages are your other children?
Please separate the ages of multiple children below with commas.

_____

What is your racial background?

- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Black or African American
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ White

Are you Hispanic or Latinx?

- o Yes
- o No

What is the highest level of school you have completed or the highest degree you have received?

- o Less than high school degree
- o High school diploma
- o Associate degree
- o Bachelor's degree
- o Master's degree
- o Doctoral degree
- o Other training

Please indicate your approximate household income (from the previous year).

- o Less than $10,000
- o $10,000 to $30,000
- o $31,000 to $60,000
- o $61,000 to $90,000
- o $91,000 to $120,000
- o $121,000 to $150,000
- o $151,000 to $180,000
- o More than $181,000

What best describes your marital status?

o Single

o Married

o Divorced

o Widowed

Were you ever a "stay at home mother"?

o Yes

o No

Are you currently a "stay at home mother"?

o Yes

o No

Do you plan to be a "stay at home mother"?

o Yes

o No

What age were you when you first became a mother? Or, if you are currently pregnant with your first child, at what age will you become a mother?

o Less than 18

o 18-24

o 25-29

o 30-34

o 35-39

o 40+

End of Block: Demographics

Start of Block: Mom Statements

Mark how true or false the following statements are based on your own experiences.
Very false Very True
0 50 100

I consider myself a good mom	

Venting to other moms makes me feel better	
Being a mom is a hard job	
Other moms know what I'm going through	
I consider myself to be a perfect mom	

End of Block: Mom Statements

Start of Block: Soon to Be Mom Statements

[presented instead of Mom Statements for currently pregnant women]

Mark how true or false the following statements are based on your own experiences.
Very false Very True
0 50 100

I think I will be a good mom	
Venting to other moms or soon to be moms makes me feel better	
Being a mom will be a hard job	
Other moms or soon to be moms know what I'm going through	
I think I will be a perfect mom	

End of Block: Soon to Be Mom Statements

Start of Block: Closing

Thank you for participating in this survey!
If you have questions, feel free to reach out!
Contact for questions about the research: Maria Kalaitzandonakes (mhk228@cornell.edu)
Contact for questions about rights as a research participant: Cornell University Institutional Review Board for Human Participants (irbhp@cornell.edu)

End of Block: Closing

Appendix 7 – Demographics of Survey Takers

- Moms had an average of 1.96 children (min: currently pregnant with first; max: 7)
- 55 moms indicated they had at least one child with food allergies
- 78 moms indicated they follow a special diet (20 were Gluten Free, 16 were Vegan, 17 were Vegetarian, 11 were a combination of diets, and 15 followed other diets)
- The majority of our survey takers (about 65%) are married.
- 14% of moms surveyed identified as being Hispanic/Latinx

Ages of Survey Takers

Age Range	Percent of Survey Takers
18-24	12.8%
25-29	15.2%
30-34	21.1%
35-39	20.6%
40+	30.2%

Races of Survey Takers

Race(s)	Percent of Survey Takers
American Indian or Alaska Native	3.21%
American Indian or Alaska Native and Black or African American	0.27%
American Indian or Alaska Native and Black or African American and White	0.53%
American Indian or Alaska Native and White	0.27%
Asian	4.81%
Asian and Black or African American	0.27%
Black or African American	6.68%
Black or African American and White	1.60%
Native Hawaiian or Other Pacific Islander	0.80%

White	81.55%

Education of Survey Takers

Highest education level achieved	Percent of survey takers
Doctoral degree	0.8%
Master's degree	8.6%
Bachelor's degree	22.5%
Associate degree	15.8%
Other training	8.3%
High school diploma	40.4%
Less than high school degree	3.7%

Income of Survey Takers

Last year’s family income	Percent of survey takers
Less than $10,000	10.4%
$10,000 to $30,000	20.6%
$31,000 to $60,000	31.0%
$61,000 to $90,000	20.3%
$91,000 to $120,000	8.3%
$121,000 to $150,000	4.8%
$151,000 to $180,000	1.3%
More than $181,000	3.2%

Frequency of codes per blog

	100 Days of Real Food	A Moms Take	About Crissy Page	Cool Mom Picks	Design Mom	Family Focus Blog	Fun Cheap Free	Jens Blah Blah Blog	Lady and the Blog	Mama's Loosin' It	Mamavation	Mom Blog Society	Mom Does Reviews	Mom Trends	Pretty Prudent	Shibley Smiles	Slap Dash Mom	Sweet T Makes Three	The Taylor House	Thrifty Nifty Mommy	Thrifty Northwest Mom	24/7 Moms
Previous Experience		3		30	4	11	3	9	4	2	6	1	2	3	5						4	7
Similar Values		1	1	9	1	4	4	5		1	15	2		2			1	1			5	2
Trust	4	3	3	15	4	3	12	11	4	2	21	2	3	8	5	4			7	1	16	2
Team						1	1	4			4					2		1		2		1
Blog Support	2	1	1	4	8	4	3	7	4	1	16	4	1	6		2		1		1	3	4
Busy	1	2	1	7	1	2	2	4		1		1	2	4	1		1	1		1	2	1
Humor		1		38			14	5	5	7	10		2		4	9	2	1		3		
Imperfections	3	2	1	2		2	7	1	1		8			2	1	4	2					2
Me Time		2		5		10		15	3	1	1		3	2	4	3				3	3	
Mother Role	1	5		13	2	5	6	17	4	7	12	2	3	7	6	6	1	1		4	7	7
Blog Rules	5	2	1	22	7	2	5	9	3		3	1		2		4			3		3	
Endorsement	1		1	12	4		2	2	4		3		1	5	1			2	2	1	8	1
Payment	1	3		11	2			12	1	1	4	1	2	5	1	1	1	2	5	1	8	1
Negative Terms	9	1	1	12	5	5	32	21	9	7	68	1		2	1	3	2		2	4	7	1
Positive Terms	9	5	1	54	20	13	55	48	16	13	54	3	1	16	8	24		8	3	20	23	1

Appendix 8 – Differences tests

T-test of Intent to Purchase for Whole Wheat and Added Sugar treatments

```
. ttest WIntentToPurchaseYes== SIntentToPurchaseYes

Paired t test
```

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
WInten~s	371	.8571429	.0181918	.3503997	.8213705	.8929152
SInten~s	371	.8544474	.0183338	.3531333	.818396	.8904989
diff	371	.0026954	.0230603	.4441734	-.0426503	.0480412

```
     mean(diff) = mean(WIntentToPurch~s - SIntentToPurch~s)       t =   0.1169
 Ho: mean(diff) = 0                                 degrees of freedom =      370

 Ha: mean(diff) < 0           Ha: mean(diff) != 0           Ha: mean(diff) > 0
 Pr(T < t) = 0.5465         Pr(|T| > |t|) = 0.9070          Pr(T > t) = 0.4535
```

T-test of Willingness to Pay for Whole Wheat and Added Sugar treatments

```
. ttest WMoney== SMoney

Paired t test
```

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
WMoney	371	2.556199	.0395846	.7624526	2.478361	2.634038
SMoney	371	2.599272	.0380281	.7324725	2.524494	2.674051
diff	371	-.0430728	.0346543	.667488	-.1112168	.0250712

```
     mean(diff) = mean(WMoney - SMoney)                           t =  -1.2429
 Ho: mean(diff) = 0                                 degrees of freedom =      370

 Ha: mean(diff) < 0           Ha: mean(diff) != 0           Ha: mean(diff) > 0
 Pr(T < t) = 0.1073         Pr(|T| > |t|) = 0.2147          Pr(T > t) = 0.8927
```

REFERENCES

Belkin, Lisa. 2011. "Queen of the Mommy Bloggers." *New York Times*, February 23, 2011.

Bettman, J. R. 1979. An Information Processing Theory of Consumer Choice, Reading, MA: *Addison-Wesley Publishing Co*.

Bryant, Aidan. 2012. "Parenting Blog Coverage of the Autism-Vaccine Controversy." Syracuse University.

Burke-Garcia, A. 2017. "Opinion Leaders for Health: Formative Research with Bloggers about Health Information Dissemination." Fairfax, VA: George Mason University.

Burke-Garcia, A., Kreps, G., and Wright, K. 2018. "Perceptions About Disseminating Health Information Among Mommy Bloggers: Quantitative Study" *JMIR research protocols*, *7*(4), e116.

"Buzz in the Blogosphere: Millions More Bloggers and Blog Readers." 2012. Nielsen. https://www.nielsen.com/us/en/insights/news/2012/buzz-in-the-blogosphere-millions-more-bloggers-and-blog-readers.html.

Calfas, Jennifer. 2018. "The New Mommy Blogger: Instagram Famous, Highly Paid, and Sponsored by Minute Maid." *Money*, May 11, 2018. http://money.com/money/5269576/mommy-bloggers-success/.

Charmaz, Kathy. 2001. "Grounded Theory." *Contemporary Field Research*, 335–52.

Chandler, K.M.M., E.M. Crown, and S.A. Brown. "Consumer information and education effects on knowledge and choice of fire resistant upholstery." *Journal of Consumer Affairs* 25.2 (1991): 339+. *Business Insights: Essentials*. Web. 9 Dec. 2018.

Cision. 2014. "Top 50 U.S. Mom Bloggers." https://www.cision.com/us/2014/05/top-50-u-s-mom-bloggers/

Costanigro, M and Lusk, J. 2014. "The signaling effect of mandatory labels on genetically engineered food." *Food Policy*, Vol. 49, Part 1.

Couper, Mick P. 2017. "New Developments in Survey Data Collection." *Annual Review of Sociology* 43.

Creswell, John.W. 2018. *Research Design: Qualitative, Quantitative, and Mixed Method Approaches* (5th ed.) Thousand Oaks, CA: Sage.

Crittenden, K., Kaponda, C., Jere, D., McCreary, L., and Norr, K. 2015. "Participation and diffusion effects of a peer-intervention for HIV prevention among adults in rural Malawi." *Social Science & Medicine*. 133. 136-144.

Doub, Allison E., Meg Small, and Leann Birch. 2015. "An Exploratory Analysis of Child Feeding Beliefs and Behaviors Included in Food Blogs Written by Mothers of Preschool-Aged Children." *Journal of Nutrition Education and Behavior* 48: 93–103.

Drisko, James W., and Tina Maschi. 2016. *Content Analysis*. Pocket Guides to Social Work Research Methods. Oxford University Press.

Ehrenreich, Barbara, and Deirdre English. 2005. *For Her Own Good: Two Centuries of the Experts' Advice to Women*. Second. Anchor Books.

Entman, R. M. 1993. Framing: Toward clarification of a fractured paradigm. *Journal of Communication, 43*(4), 51–58.

Entman, R. M. 2004. *Projections of power: Framing news, public opinion, and U.S. foreign policy*. Chicago, IL: University of Chicago Press.

Fowler, Floyd J. 2014. *Survey Research Methods*. 5th ed. SAGE Publications.

Friedman, May. 2013. *Mommyblogs and the Changing Face of Motherhood*. University of Toronto Press.

Gale Group. 2007. "Claiming a Place in Cyberspace, Mommy Blogs Emerge as a Force for Marketers and Moms." Business Insights: Essentials.

Howell, Whitney LJ. 2010. "Mom-to-Mom Blogs: Hospitals Invite Women to Share Experiences." *Hospitals & Health Networks*, 2010.

Hunter, Andrea. 2015. "Get Off My Internets: The Audience Commodity and the Mommy Blog Backlash." Montreal, QC Canada: Concordia University.

Kimura, Aya Hirata. 2016. *Radiation Brain Moms and Citizen Scientists: The Gender Politics of Food Contamination after Fukushima*. Duke University Press.

Kwon, Nancy. 2011. "Tweet This!" *Canadian Grocer*, 2011.

Meleo-Erwin, Z., Basch, C., MacLean,S., Scheibner, C, and Cadorett, V. 2017. "To each his own": Discussions of vaccine decision-making in top parenting blogs. *Human Vaccines and Immunotherapeutics.* 13(8).

Milne, Vanessa. "The dangerous way parents are using their DockATots." *Today's Parent.* 2017. https://www.todaysparent.com/baby/baby-sleep/dangerous-way-parents-are-using-dockatots/

Neuendorf, Kimberly A. 2002. *The Content Analysis Guidebook*. SAGE Publications.

Orton-Johnson, Kate. 2017. "Mummy Blogs and Representations of Motherhood: 'Bad Mummies' and Their Readers." *Social Media and Society* 3 (2).

Petersen, Emily January. 2014. "Redefining the Workplace: The Proefssionalization of Motherhood through Blogging." *Journal of Technical Writing and Communication* 44 (3): 277–96.

Pew Research Center. 2018. “7 Facts about US Moms.” https://www.pewresearch.org/fact-tank/2018/05/10/facts-about-u-s-mothers/

“QDA Miner 5 User Guide.” 2018. Provalis Research.

Rogers, E.M. 1962. “Diffusion of Innovations.” *Free Press*, New York.

Simmons, Lakisha L., Sumali Conlon, Surma Mukhopadhyay, and Jun Yang. 2011. “A Computer Aided Content Analysis of Online Reviews.” *The Journl of Computer Infomation Systems* 52 (1): 45–55.

Sisk, Jane E., Ann Lennarson Greer, Martha Wojtowycz, Lani B. Pincus, and Richard H. Aubry. 2004. “Implementing Evidence-Based Practice: Evaluation of an Opinion Leader Strategy to Improve Breast-Feeding Rates.” *American Journal of Obstetrics and Gynecology* 190: 413–21.

US Census Bureau. 2016. “The Majority of Children Live With Two Parents, Census Bureau Reports.” https://www.census.gov/newsroom/press-releases/2016/cb16-192.html

Valente, T. W. and Pumpuang, P. 2007. Identifying Opinion Leaders to Promote Behavior Change. *Health Education & Behavior*, *34*(6), 881–896.

Ward, Angela Nuttall. 2012. “Mom Blogs: Portrayals of Contemporary Mothering Standards, Styles, and Secrets.” Provo, UT: Brigham Young University.

Wright, Susan, and Elisa Camahort Page. n.d. “2009 Women and Social Media Study.” BlogHer.

Yonker, Madeline Dahlke. 2012. “The Rhetoric of Mom Blogs: A Study of Mothering Made Public.” Syracuse University.